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TECHNICAL MANUAL

ORGANIZATIONAL AND DS MAINTENANCE MANUAL INCLUDING REPAIR PARTS AND SPECIAL TOOLS LIST FOR PARACHUTE, CARGO TYPES

12-FOOT-DIAMETER HIGH-VELOCITY, G-13 24-FOOT-DIAMETER, 26-FOOT-DIAMETER HIGH-VELOCITY, G-14 34-FOOT-DIAMETER, 38-FOOT-DIAMETER RCAT, G-12C AND G-12D 64-FOOT-DIAMETER, G-11A 100-FOOT-DIAMETER, 15-FOOT-DIAMETER EXTRACTION, 22-FOOT-DIAMETER EXTRACTION, 28-FOOT-DIAMETER EXTRACTION, 3-FOOT-SQUARE PILOT

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Organizational and DS Maintenance Manual Including Repair Parts and Special Tools List For Parachute, Cargo Types

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Organizational and DS Maintenance Manual Including Repair Parts and Special Tools List For Parachute, Cargo Types

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G-11A 100-FOOT-DIAMETER, 15-FOOT-DIAMETER EXTRACTION,
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CHAPTER 1

INTRODUCTION

Section I. GENERAL

1–1. Scope

These instructions are for use by organizational and direct support maintenance activities and apply to the maintenance of cargo parachutes which include the 12-foot-diameter high-velocity, G-13 24-foot-diameter, 26-foot-diameter high-velocity, G-14 34-foot-diameter, 38-foot-diameter RCAT, G-12C and G-12D 64-foot-diameter, G-11A 100-foot-diameter, 15-foot-diameter extraction, 22-foot-diameter extraction, 28-foot-diameter extraction, and 3-foot-square pilot parachutes. Information is provided on packing of the parachutes and related components in addition to the composition, inspection, maintenance, and replacement of components and assemblies. Repair parts and required bulk materials are listed in Appendix C.

1–2. Maintenance Forms and Records

Maintenance forms, records, and reports that are to be used by organizational and direct support maintenance personnel are listed in and prescribed by TM 10-1670-201-23/TO 13C-1-41, TM 750-126, and TB 750-99-16. The use of US Air Force maintenance forms by maintenance personnel will be in accordance with TO 00-25-241. Additional recording and reporting documentation which may be required for work orders, Modification Work Orders (MWOs), and Equipment Improvement Reports (EIRs) will be completed in accordance with TM 38-750.

1–3. Reporting of Errors

The reporting of errors, omissions, and recommendations for improving this publication by the individual user is encouraged. Preparation and submission of reports will be as follows:

a. You can help improve this manual. If you find any mistake or if you know of a way to improve the procedure, please let us know. Mail your letter, DA Form 2028 (Recommended Changes to Publications and Blank Forms), or DA Form 2028-2 located in the back of the manual directly to: Commander, US Army Troop Support and Aviation Materiel Readiness Command, ATTN: DRSTS-MPSD,4300 Goodfellow Blvd., St. Louis, MO 63120. A reply will be furnished to you.

b. Reports by US Air Force units should be submitted on AFTO Form 22, Technical Order Publication Improvement Report, and forwarded to the address prescribed in a. above. An information copy of the prepared AFTO Form 22 shall be furnished to SAAMA/MMSTR, Kelly AFB, Texas 78241.

1–4. Administrative Storage

Administrative storage of cargo parachute assemblies described in this publication will be accomplished as prescribed in TM 740-90-1 and TM 10-1670-201-23/TO 13C-1-41.

1–5. Destruction to Prevent Enemy Use

For instructions applicable to destruction of cargo parachute assemblies in danger of imminent capture by an enemy, refer to TM 43-0002-1/TO 13C3-1-10.

Section II. DESCRIPTION AND DATA

1–6. Description

a. The 12- and 26-Foot-Diameter High-Velocity Cargo Parachutes. The 12- and 26-foot-diameter high-velocity cargo parachutes (figs. 1-1 and 1-2) are designed for use in decelerating and stabilizing high-velocity airdrop cargo loads. The canopy used on both parachutes is of ringslot design. Each parachute assembly also consists of a deployment bag and a static line. The static line may be used to function in either breakaway or nonbreakaway methods of parachute deployment.

b. The G-13 24-Foot-Diameter Cargo Parachute. The G-13 24-foot-diameter cargo parachute is designed for airdrop of supplies using the A-21 Cargo Bag, A-7A Cargo Sling, and other similar type 500-pound-capacity airdrop containers. The parachute consists of a parabolic-shaped cotton muslin canopy assembly (fig. 1-3), a riser assembly, an envelope-type pack (fig. 1-4), and a static line assembly. The riser assembly is equipped with two risers, a spreader bar, and two clevises. The static line assembly is a length of cotton webbing with a breakcord attaching loop and a pack opening loop formed on one end and a clevis attaching loop with a riser clevis located on the opposite end. A static line drogue is also used with the parachute to stabilize the static line when a parachutist is to follow an airdrop container. The drogue consists of a body, four vanes, and a nylon cord attaching loop.

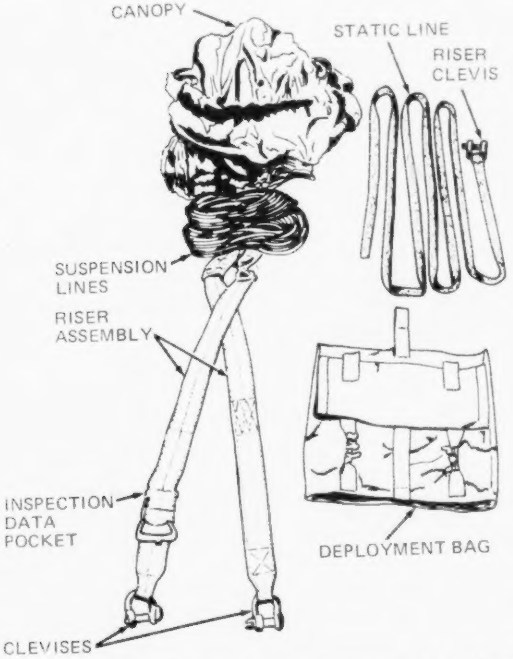

CANOPY
STATIC LINE
RISER CLEVIS
SUSPENSION LINES
RISER ASSEMBLY
INSPECTION DATA POCKET
DEPLOYMENT BAG
CLEVISES

Figure 1—1. The 12-foot-diameter high-velocity cargo parachute assembly.

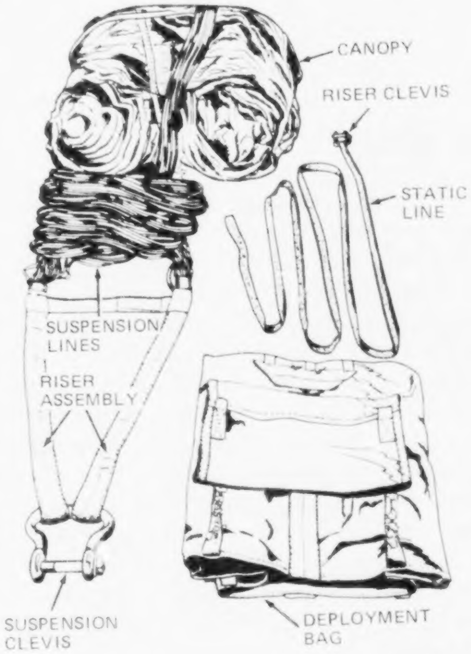
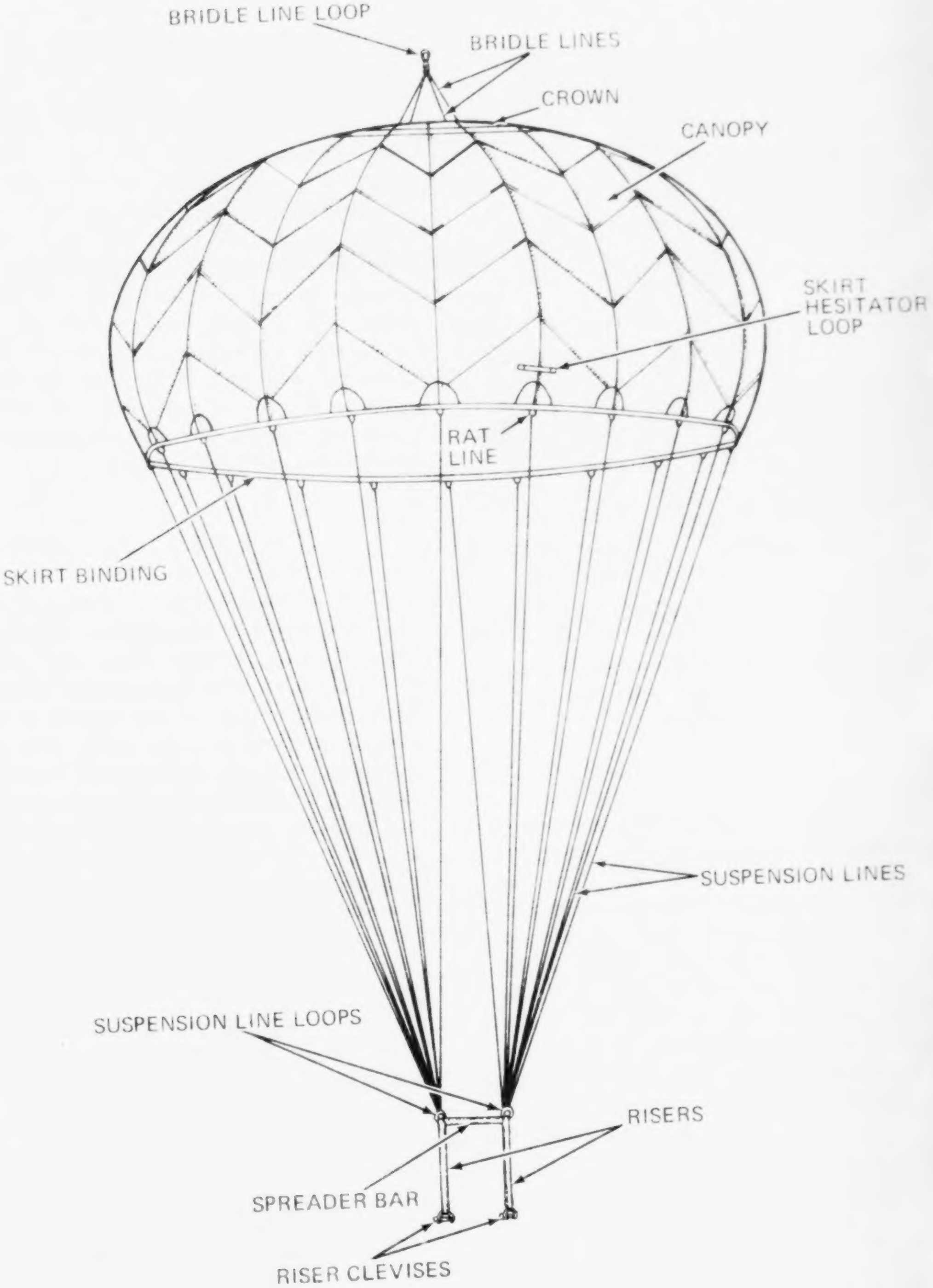

CANOPY
RISER CLEVIS
STATIC LINE
SUSPENSION LINES
RISER ASSEMBLY
SUSPENSION CLEVIS
DEPLOYMENT BAG

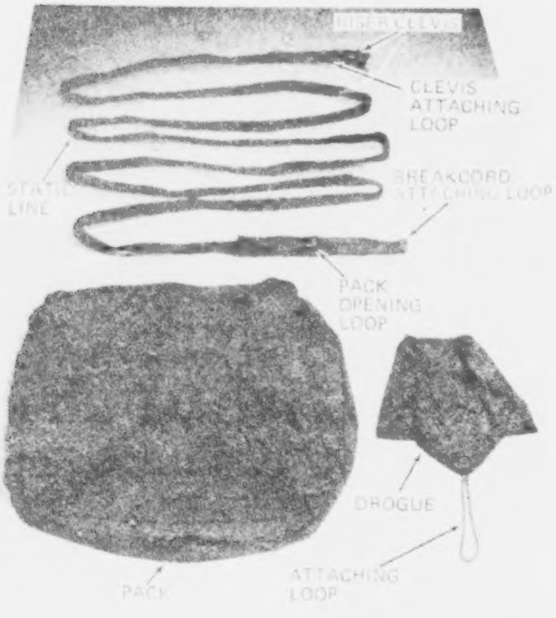
Figure 1—2. The 26-foot-diameter high-velocity cargo parachute assembly.

c. The G-14 34-Foot-Diameter Cargo Parachute. The G-14 34-foot-diameter cargo parachute is used for low-velocity airdrop of supplies rigged in 500-pound-capacity airdrop containers. The parachute consists of a biconical designed cotton muslin canopy assembly with an annular ring (fig. 1-5), a riser assembly, an envelope-type


BRIDLE LINE LOOP
BRIDLE LINES
CROWN
CANOPY
SKIRT HESITATOR LOOP
RAT LINE
SKIRT BINDING
SUSPENSION LINES
SUSPENSION LINE LOOPS
RISERS
SPREADER BAR
RISER CLEVISES

AV 106462

Figure 1–3. The G-13 24-foot-diameter cargo parachute canopy and riser assemblies.



AV 106463

Figure 1-4. The G-13 24-foot-diameter cargo parachute pack, static line, and drogue assemblies.

pack (A, fig. 1-6), and a static line assembly (B). The riser assembly is equipped with two risers, a spreader, and two riser clevises. The static line is constructed from cotton webbing with a breakcord attaching loop and a pack opening loop located on one end, and a clevis attaching loop formed on the opposite end. A static line drogue (C) is also used with the G-14 34-foot-diameter cargo parachute when the parachute static line is rigged for nonbreakaway use. The nylon duck cloth drogue is constructed with a body, four vanes, and a nylon cord attaching loop. The drogue is used to stabilize a static line when a parachutist is to follow an airdrop container.

NOTE

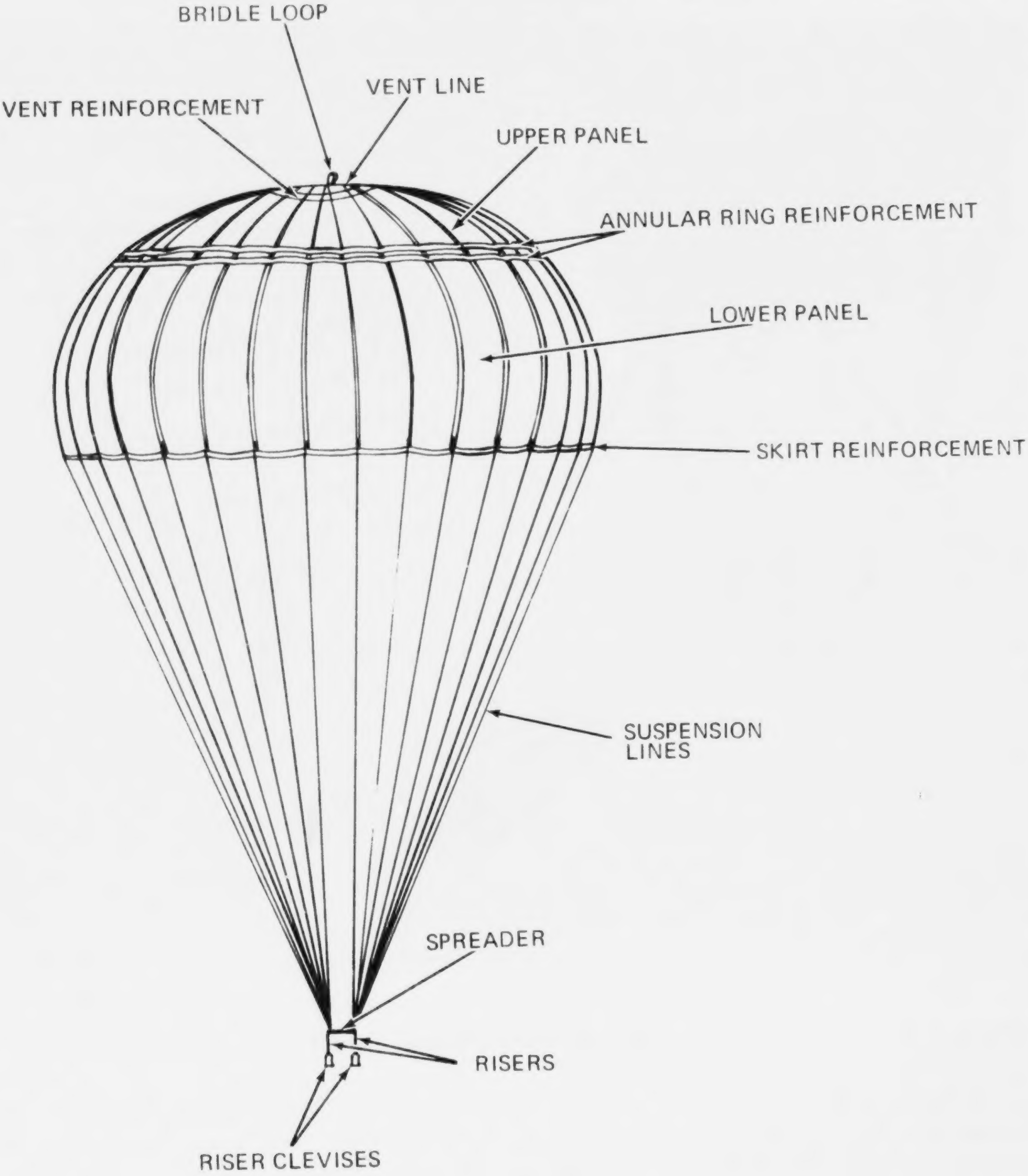
> The G-13 24-foot-diameter cargo parachute may be used as an alternate to the G-14 34-foot-diameter cargo parachute.

d. The 38-Foot-Diameter RCAT Cargo Parachute. The 38-foot-diameter cargo parachute is used for radio controlled aerial target (RCAT) recovery. The parachute consists of a flat-circular shaped nylon canopy equipped with two dee rings (fig. 1-7), a pilot parachute, and an expendable pack bag. The pilot parachute, which is of vane-type construction, has a 36-inch-diameter nylon canopy, and is connected to the parachute canopy through use of a bridle line. The pack bag (fig. 1-8) is made from waterproof material as outlined in paragraph 3-23 and is designed for one-time use only. Each time the parachute is packed for use a new pack bag is required. A plywood packing box is also required for use as a packing aid with the pack bag.

e. The G-12C and G-12D 64-Foot-Diameter Cargo Parachutes. The G-12C and G-12D 64-foot-diameter cargo parachutes are designed primarily for medium capacity use with the A-22 Air Delivery Cargo Bag, although the G-12D is used with variations of platform-rigged loads as prescribed in the applicable equipment rigging publications. Basically, both parachute assemblies utilize identical components which include a 64-foot-diameter flat-circular nylon canopy (fig. 1-9), a 111-inch-long deployment line (fig. 1-10), a 68-inch-diameter nylon pilot parachute (fig. 1-11), and a 15-foot-long static line (fig. 1-12). The gores and suspension lines of the canopy assembly are numbered clockwise when viewed from the canopy vent (fig. 1-13). Packing of the G-12C canopy assembly involves the use of an envelope-type pack (A, fig. 1-14), while the G-12D canopy assembly is packed into a locking-closure type deployment bag (B).

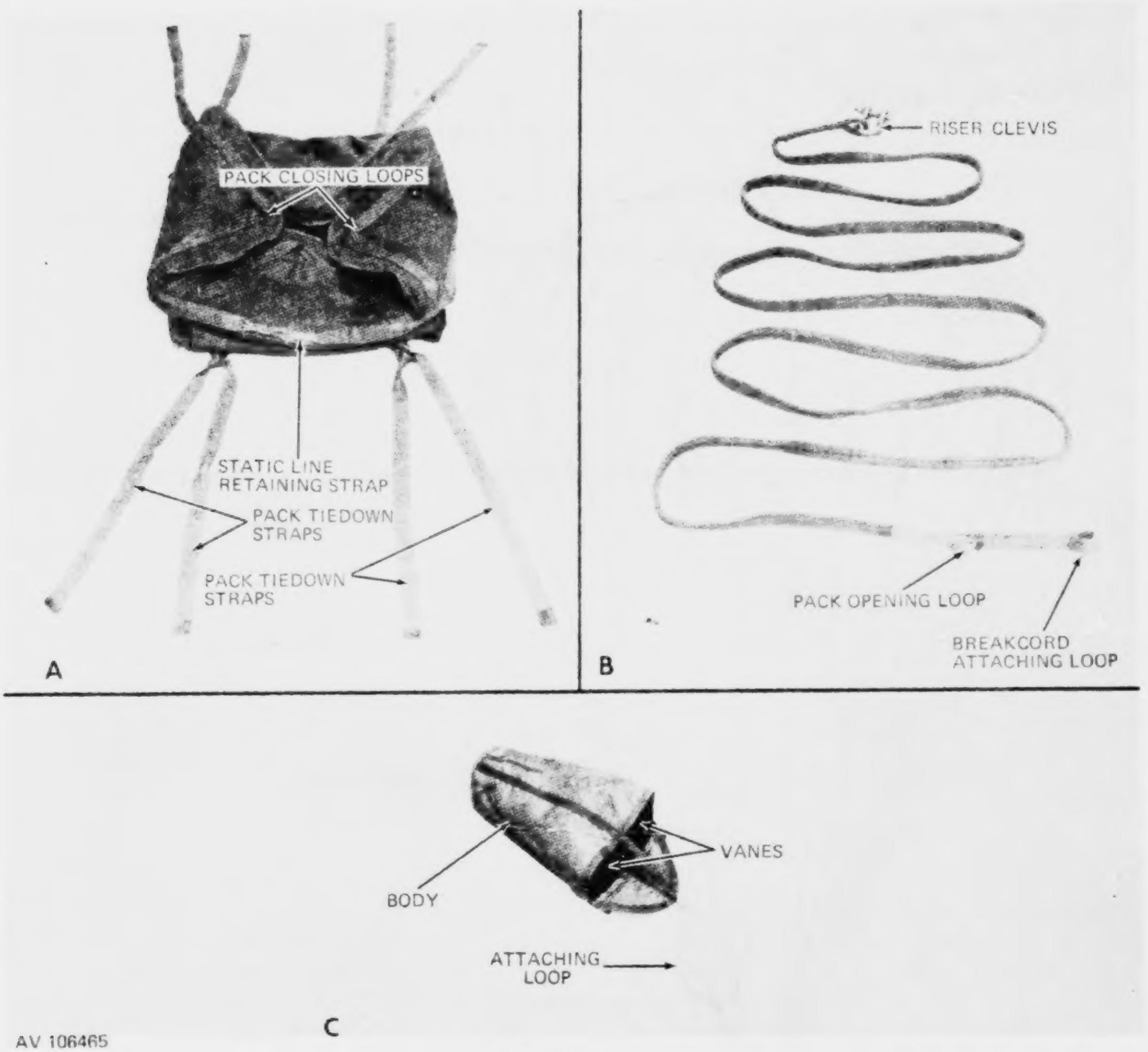
NOTE

> When a G-12D is used in the airdrop of platform loads, the 111-inch-long deployment line, pilot parachute, and static line are eliminated from use with the parachute assembly.


BRIDLE LOOP
VENT LINE
VENT REINFORCEMENT
UPPER PANEL
ANNULAR RING REINFORCEMENT
LOWER PANEL
SKIRT REINFORCEMENT
SUSPENSION LINES
SPREADER
RISERS
RISER CLEVISES

AV 106464

Figure 1–5. The G-14 34-foot-diameter cargo parachute canopy assembly.


PACK CLOSING LOOPS
STATIC LINE RETAINING STRAP
PACK TIEDOWN STRAPS
PACK TIEDOWN STRAPS
A
RISER CLEVIS
PACK OPENING LOOP
BREAKCORD ATTACHING LOOP
B
VANES
BODY
ATTACHING LOOP
C
AV 106465

A. Pack *B. Static line* *C. Drogue*

Figure 1-6. The G-14 34-foot-diameter cargo parachute pack, static line, and drogue assemblies.

f. The G-11A 100-Foot-Diameter Cargo Parachute. The G-11A 100-foot-diameter cargo parachute is a heavy capacity parachute designed for the airdrop of vehicular and bulk-type platform loads. The parachute may be used either singly or in clusters of two or more, depending upon the airdrop load weight. The G-11A is composed of a 100-foot-diameter nylon canopy assembly (fig. 1-15) with suspension lines numbered counterclockwise as viewed from the connector links (fig. 1-16), three suspension risers, a locking-closure type deployment bag (fig. 1-17), and a parachute deployment bag bridle (fig. 1-18).

g. The 15-Foot-Diameter Cargo Extraction Parachute. This cargo extraction parachute assembly consists of a 15-foot-diameter flat-circular ringslot canopy, a 60-foot-long extraction line with one release knife and one V-ring attached, a 148-inch-long or 260-inch-long reefing line, as applicable, and a deployment bag. The canopy

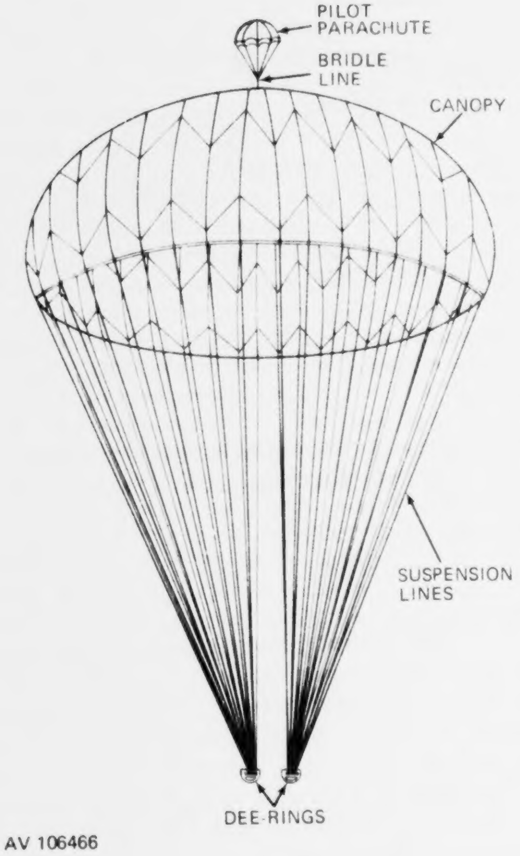

PILOT PARACHUTE
BRIDLE LINE
CANOPY
SUSPENSION LINES
DEE-RINGS
AV 106466

Figure 1–7. The 38-foot-diameter RCAT cargo parachute canopy assembly and pilot parachute.

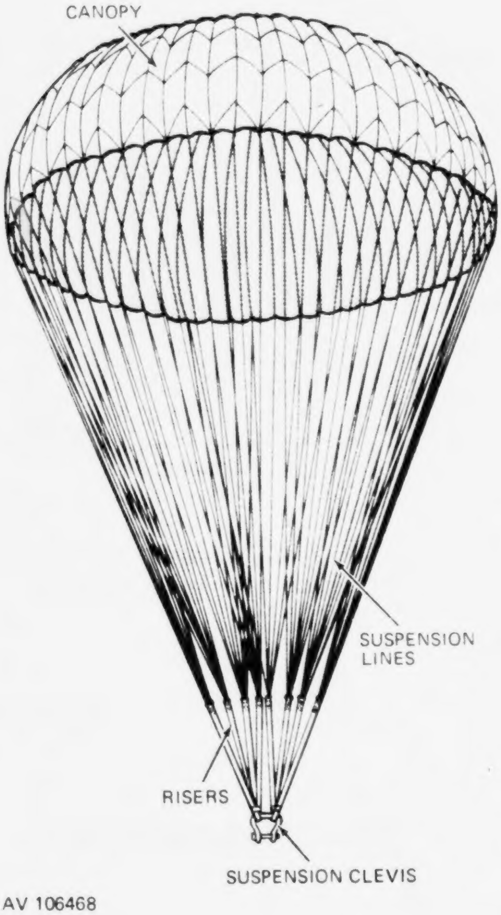

CANOPY
SUSPENSION LINES
RISERS
SUSPENSION CLEVIS
AV 106468

Figure 1–9., The G-12C and G-12D 64-foot-diameter cargo parachute canopy assembly.

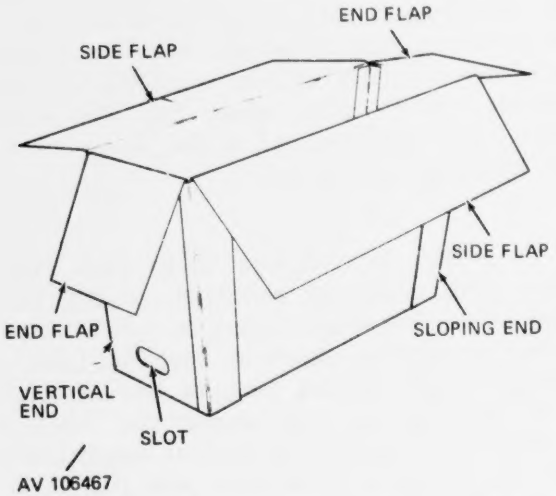

END FLAP
SIDE FLAP
SIDE FLAP
END FLAP
SLOPING END
VERTICAL END
SLOT
AV 106467

Figure 1–8. The RCAT cargo parachute pack bag.

(fig. 1-19) is constructed with five concentric rings of nylon fabric which are supported by 16 radial webs. There are 16 suspension lines which are attached on one end to the canopy skirt. The opposite end of the suspension lines are connected to two detachable connector links which in turn are joined to the extraction line (fig. 1-20). The nylon deployment bag is secured to the canopy assembly with a bag retaining line (fig. 1-21).

h. The 22-Foot-Diameter Cargo Extraction Parachute. The cargo extraction parachute consists of a 22-foot-diameter flat-circular ringslot canopy (A. fig. 1-22), a 5-foot-long adapter web

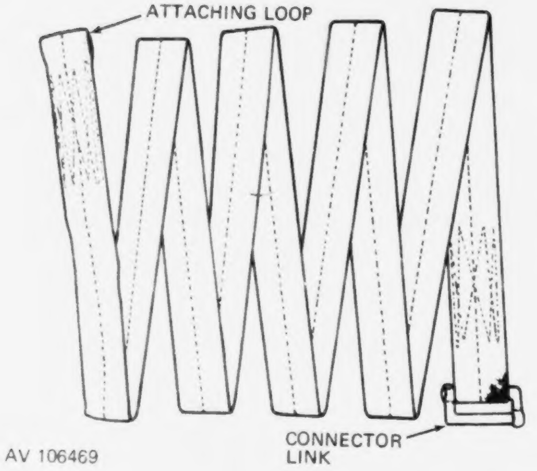


Figure 1–10. The G-12C and G-12D cargo parachute 111-inch-long deployment line.

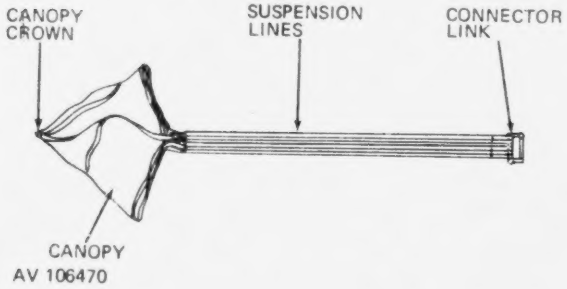


Figure 1–11. The 68-inch-diameter pilot parachute.

(fig. 1-23), a type IV quick release link assembly, a 60-foot-long concentric web loop extraction line with three release knives and a V-ring (fig. 1-24), and a deployment bag (fig. 1-25). The canopy is constructed with seven concentric rings of nylon fabric which are supported by 28 radial webs. There are 28 suspension lines (B, fig. 1-22) which are attached on one end to the canopy skirt. The opposite end of the suspension lines are connected to six detachable connector links which in turn join the adapter web. The adapter web and extraction line are connected together by the type IV quick release link. The nylon deployment bag is secured to the canopy assembly by a bag retaining line.

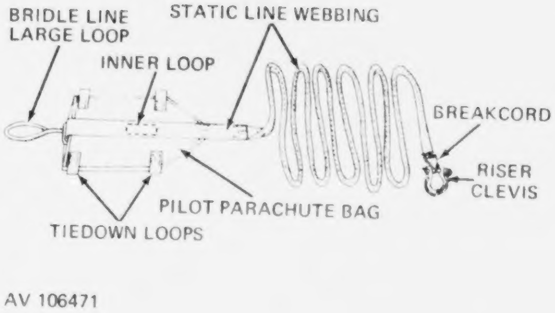
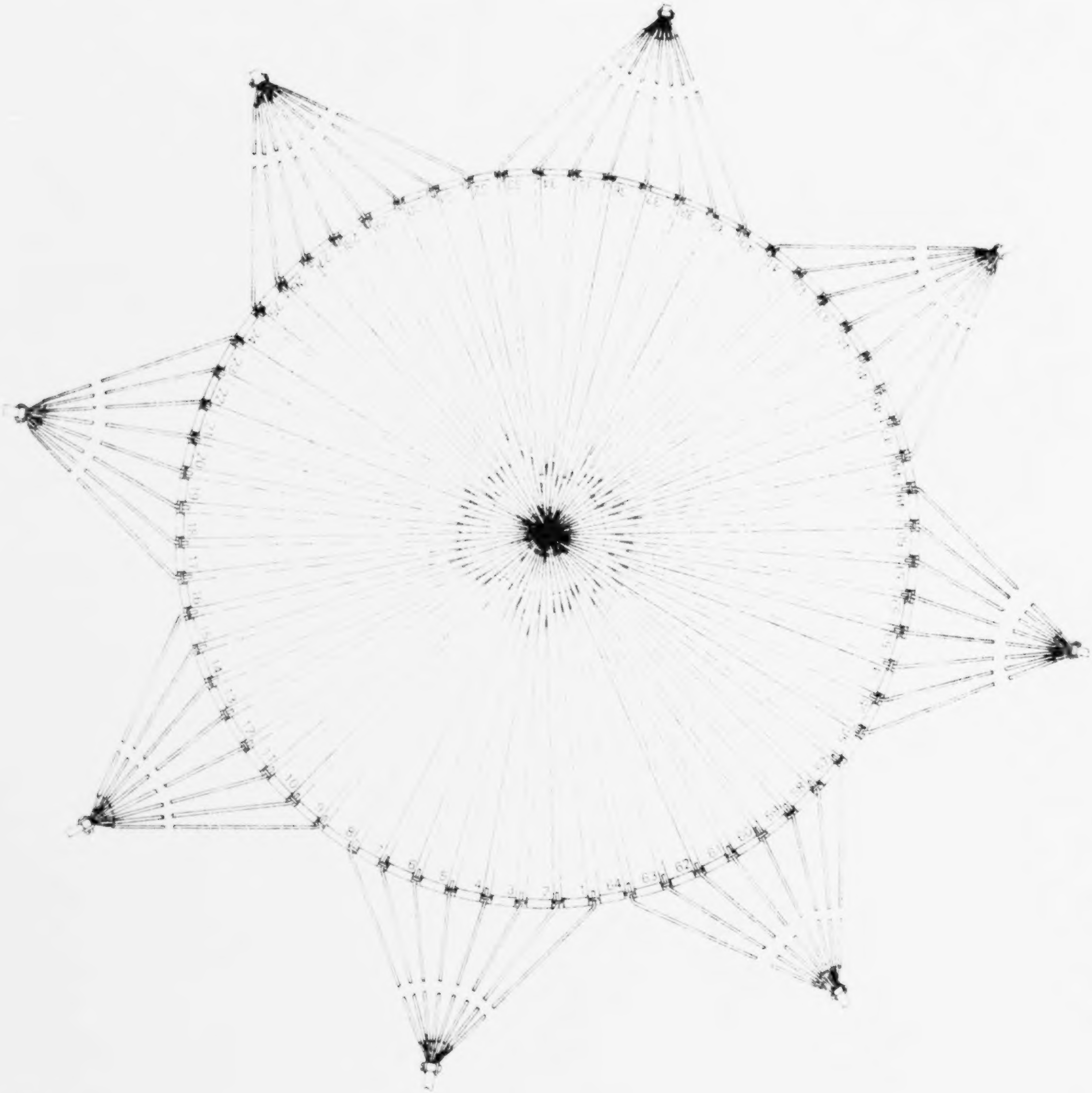


Figure 1–12. The 68-inch-diameter pilot parachute static line.

i. The 28-Foot-Diameter Cargo Extraction Parachute. This cargo extraction parachute consists of a 28-foot-diameter flat-circular ringslot canopy (A, fig. 1-26), a 9-foot-long 8-ply nylon adapter web (fig. 1-27), a type IV quick release link assembly, a 60-foot-long 8-ply nylon concentric web loop extraction line with three release knives and a V-ring (fig. 1-28), and a deployment bag (fig. 1-29). The canopy is constructed with nine concentric rings of nylon fabric which are supported by 30 radial webs and 30 vertical tapes. There are 30 suspension lines (B, fig. 1-26) which are attached on one end to the canopy skirt. The opposite end of the suspension lines are connected to eight detachable connector links which in turn join the adapter web. The adapter web and extraction line are connected together by the type IV quick release link. The nylon deployment bag is secured to the canopy assembly by a bag retaining line.

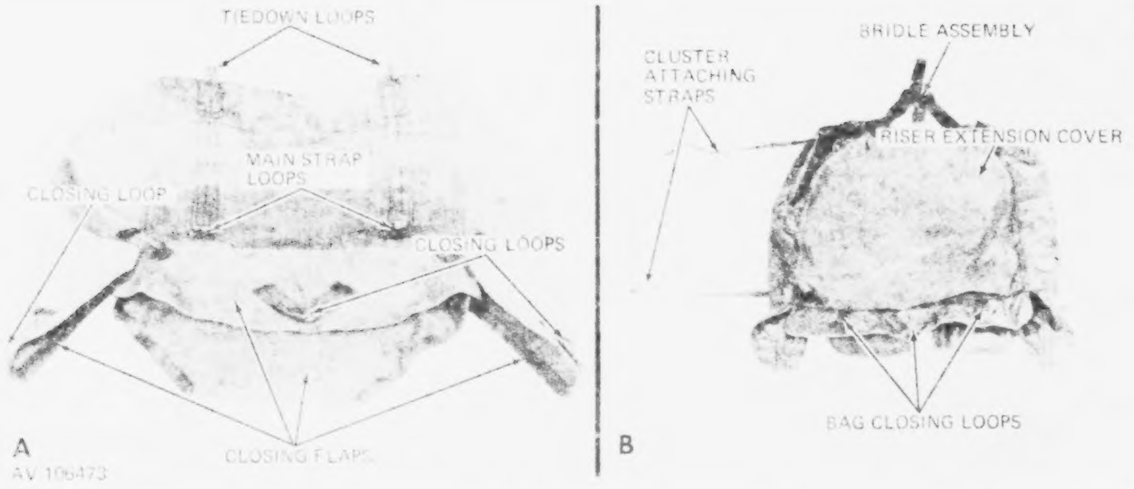
j. The 3-Foot-Square Cargo Pilot Parachute. The cargo pilot parachute assembly consists of a 3-foot-square cotton or nylon canopy with four webbing suspension lines (fig. 1-30), a tubular nylon webbing retaining line equipped with a V-ring and snap fastener (fig. 1-31), a tubular nylon webbing deployment weight bridle line (fig. 1-32), a cotton duck pack (fig. 1-33), and a 7-pound pellet-filled deployment weight equipped with a release plug (fig. 1-34).

k. The Heavy Duty 28-Foot-Diameter Cargo Extraction Parachute. The cargo extraction parachute consists of a heavy duty construction nylon ringslot canopy assembly (fig. 1-26A), a 106-inch-long adapter web (fig. 1-27A) and a nylon deployment bag (fig. 1-29A). The canopy is a 28-foot-diameter ringslot nylon canopy (A, fig. 1-26A). It has 36 gores with nine sections for each gore and 36 nylon suspension lines which are divided into eight groups and numbered clockwise when viewed from the top of the canopy (B, fig. 1-26A). The suspension lines attach to the radial webs at the skirt of the canopy and has eight detachable connector links at the opposite end. The 106-inch adapter web is attached to the connector links. It is constructed of nylon webbing with a 1 1/4-inch-diameter single attaching loop on one end and eight 1/2-inch-diameter attaching loops at the opposite end. A cotton web sliding keeper is located at the large attaching loop end of the webbing length. Each of the eight small attaching loops has a nylon web fixed keeper installed. The nylon deployment bag is secured to the canopy assembly by a bag retaining line.



AV 106472

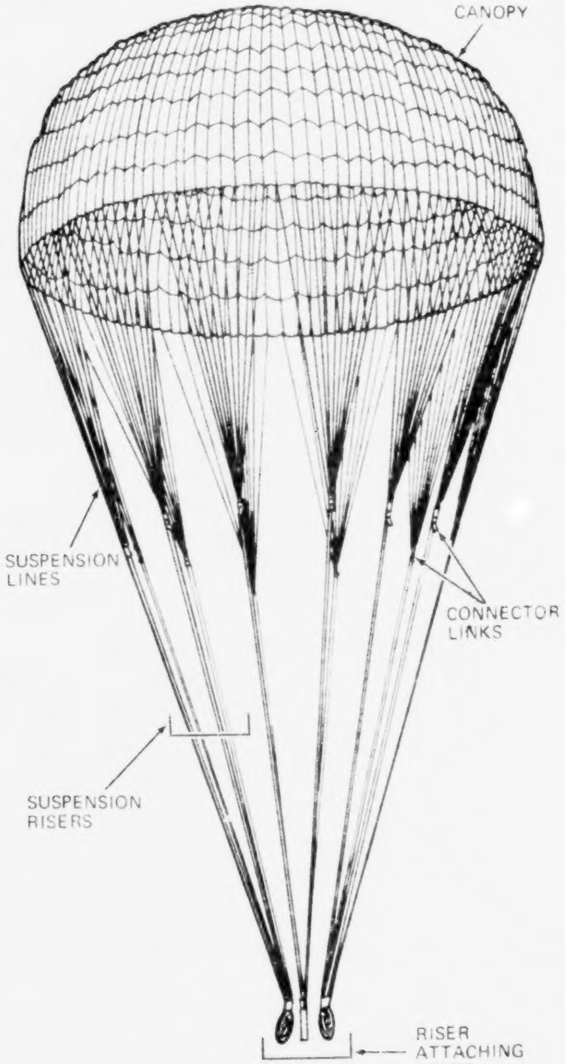
Figure 1–13. The G-12C and G-12D 64-foot-diameter cargo parachute suspension line arrangement and numbering.


TIEDOWN LOOPS
MAIN STRAP LOOPS
CLOSING LOOP
CLOSING LOOPS
CLOSING FLAPS
A
AV 106473
B
BRIDLE ASSEMBLY
CLUSTER ATTACHING STRAPS
RISER EXTENSION COVER
BAG CLOSING LOOPS

A. G-12C Pack.

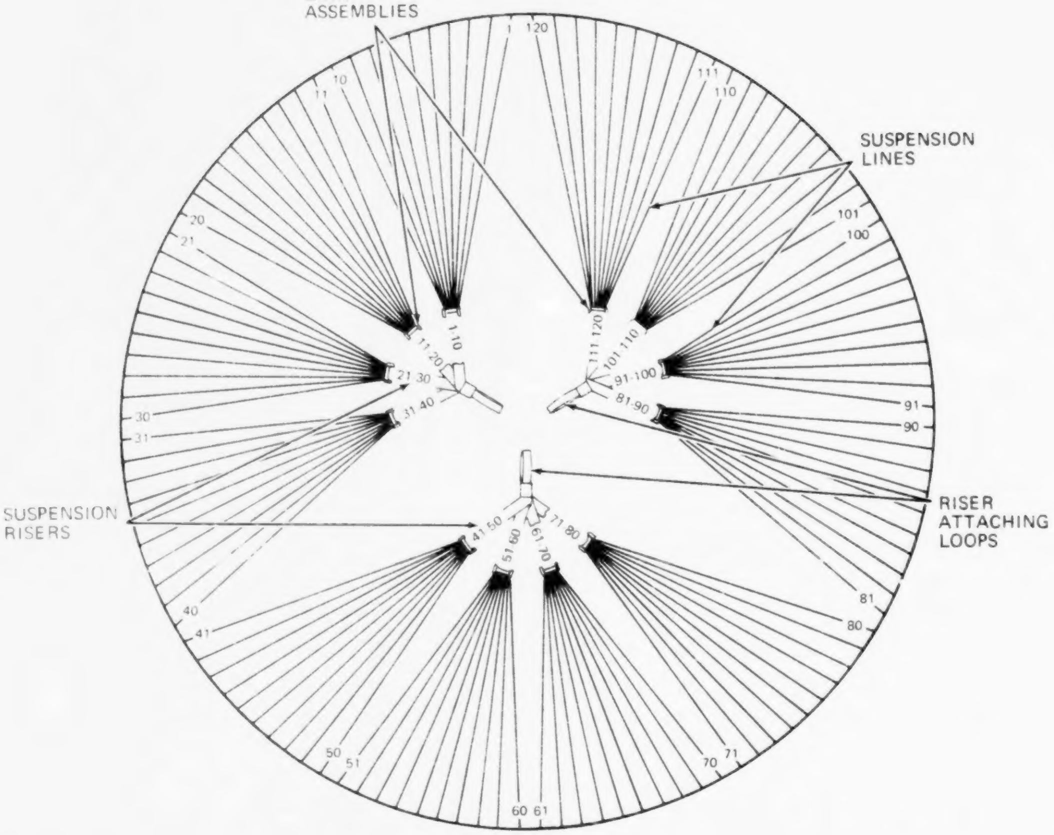
B. G-12D Bag.

Figure 1–14. The 64-foot-diameter cargo parachute G-12C envelope pack and G-12D deployment bag.


CANOPY
SUSPENSION LINES
CONNECTOR LINKS
SUSPENSION RISERS
RISER ATTACHING LOOPS

AV 106474

Figure 1-15. The G-11A 100-foot-diameter cargo parachute canopy assembly.


LINK ASSEMBLIES
SUSPENSION LINES
SUSPENSION RISERS
RISER ATTACHING LOOPS
1
120
10
11
111
110
101
100
20
21
30
31
91
90
40
41
81
80
50
51
60
61
70
71
1-10
11-20
21-30
31-40
111-120
101-110
91-100
81-90
41-50
51-60
61-70
71-80

AV 106475

Figure 1-16. The G-11A 100-foot-diameter cargo parachute suspension line arrangement and numbering.

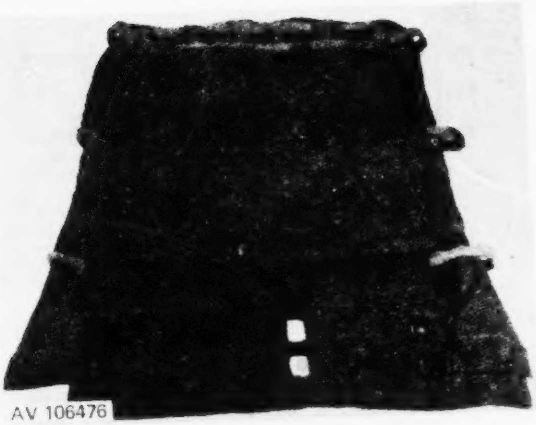


Figure 1–17. The G-11A 100-foot-diameter cargo parachute deployment bag.

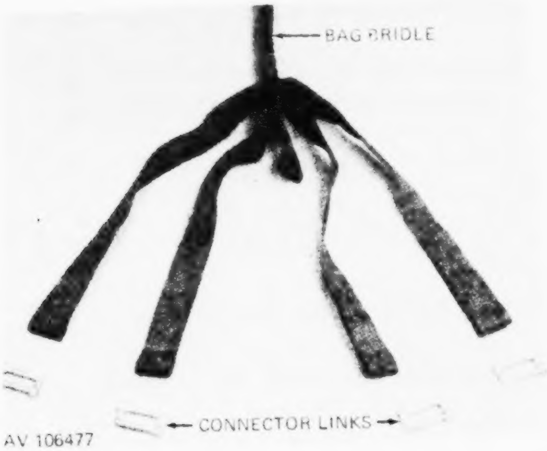
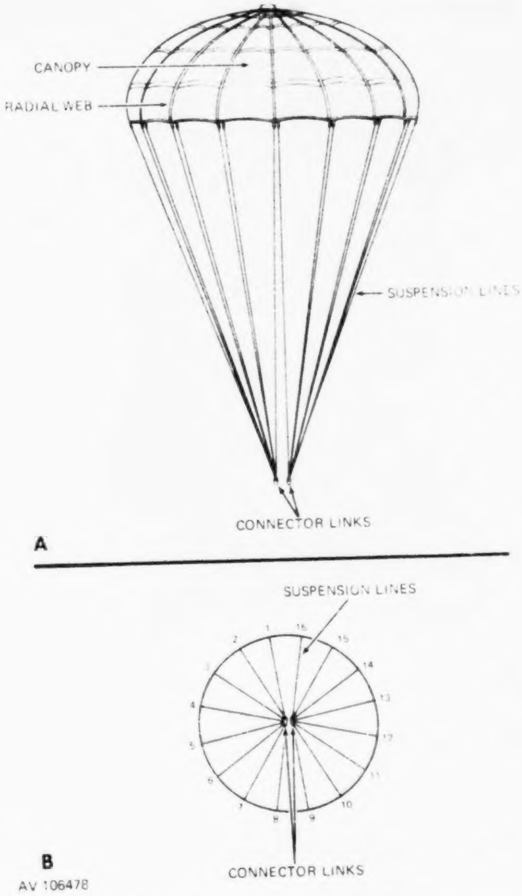

BAG BRIDLE
CONNECTOR LINKS
AV 106477

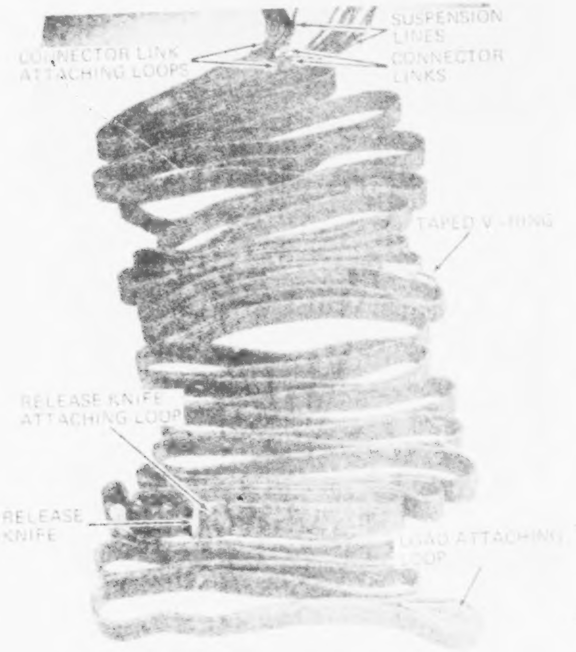
Figure 1-18. The G-11A 100-foot-diameter cargo parachute deployment bag bridle.


CANOPY
RADIAL WEB
SUSPENSION LINES
CONNECTOR LINKS
A
SUSPENSION LINES
1
2
3
4
5
6
7
8
9
10
11
12
13
14
15
16
CONNECTOR LINKS
B
AV 106478

A. Side view of the canopy assembly.

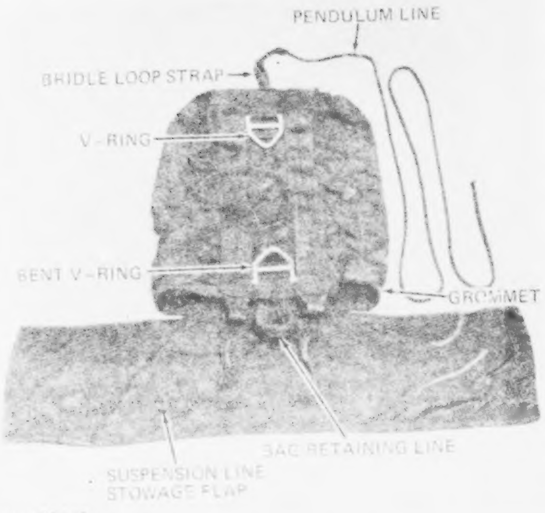
B. Suspension line arrangement and numbering.

Figure 1–19. The 15-foot-diameter cargo extraction parachute canopy assembly.


SUSPENSION LINES
CONNECTOR LINK ATTACHING LOOPS
CONNECTOR LINKS
TAPED V-RING
RELEASE KNIFE ATTACHING LOOP
RELEASE KNIFE
LOAD ATTACHING LOOP

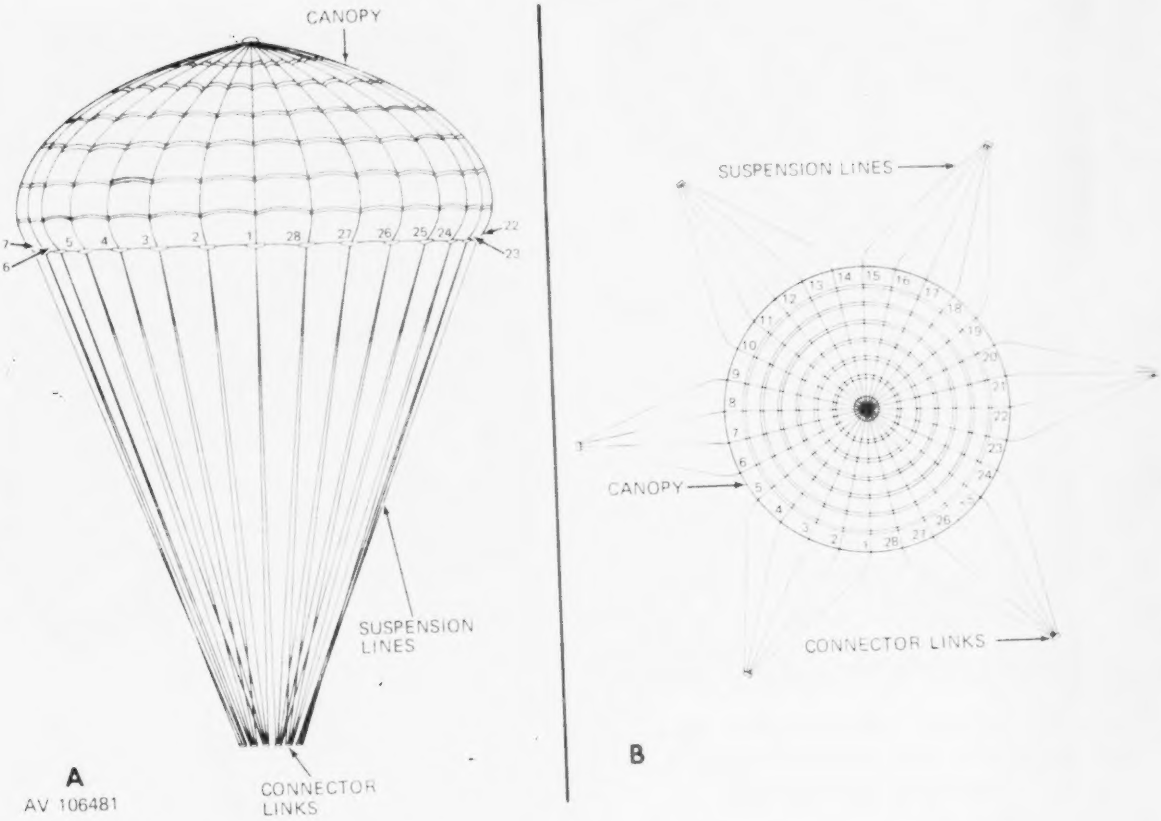
AV 106479

Figure 1-20. The 60-foot-long extraction line.


PENDULUM LINE
BRIDLE LOOP STRAP
V-RING
BENT V-RING
GROMMET
BAG RETAINING LINE
SUSPENSION LINE STOWAGE FLAP

AV 106480

Figure 1-21. The 15-foot-diameter cargo extraction parachute deployment bag.


CANOPY
7
6
5
4
3
2
1
28
27
26
25
24
22
23
SUSPENSION LINES
A
AV 106481
CONNECTOR LINKS
SUSPENSION LINES
CANOPY
CONNECTOR LINKS
B

A. Side view of the canopy assembly.

B. Suspension line arrangement and numbering.

Figure 1-22. The 22-foot-diameter cargo extraction parachute canopy assembly.

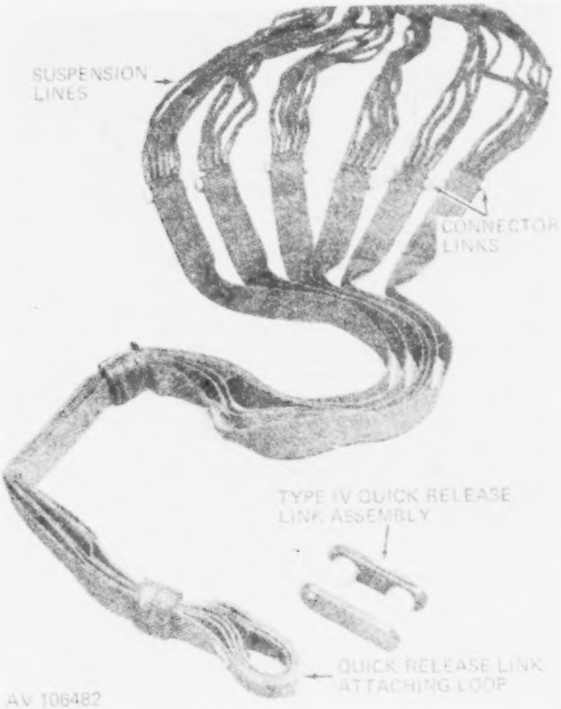

SUSPENSION LINES
CONNECTOR LINKS
TYPE IV QUICK RELEASE LINK ASSEMBLY
QUICK RELEASE LINK ATTACHING LOOP
AV 106482

Figure 1–23. The 22-foot-diameter cargo extraction parachute 5-foot-long adapter web and type IV link assembly.

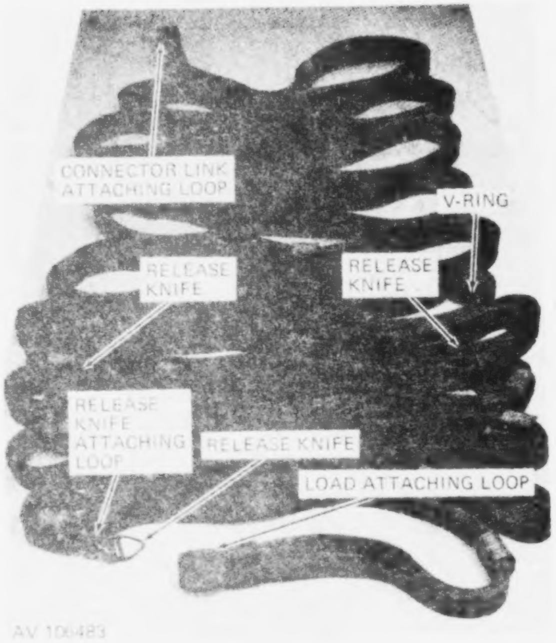

CONNECTOR LINK ATTACHING LOOP
V-RING
RELEASE KNIFE
RELEASE KNIFE
RELEASE KNIFE ATTACHING LOOP
RELEASE KNIFE
LOAD ATTACHING LOOP
AV 106483

Figure 1–24. The 60-foot-long three-knife extraction line.

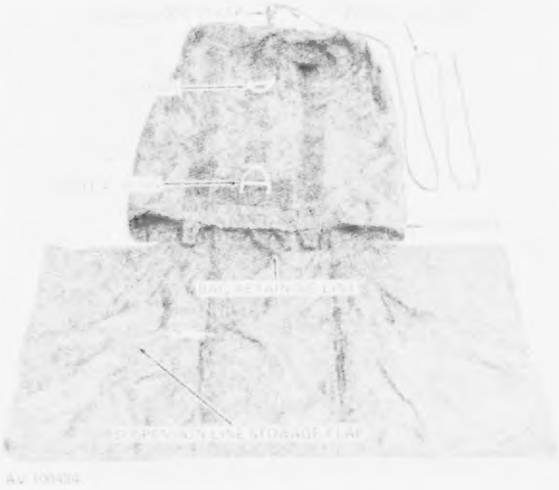
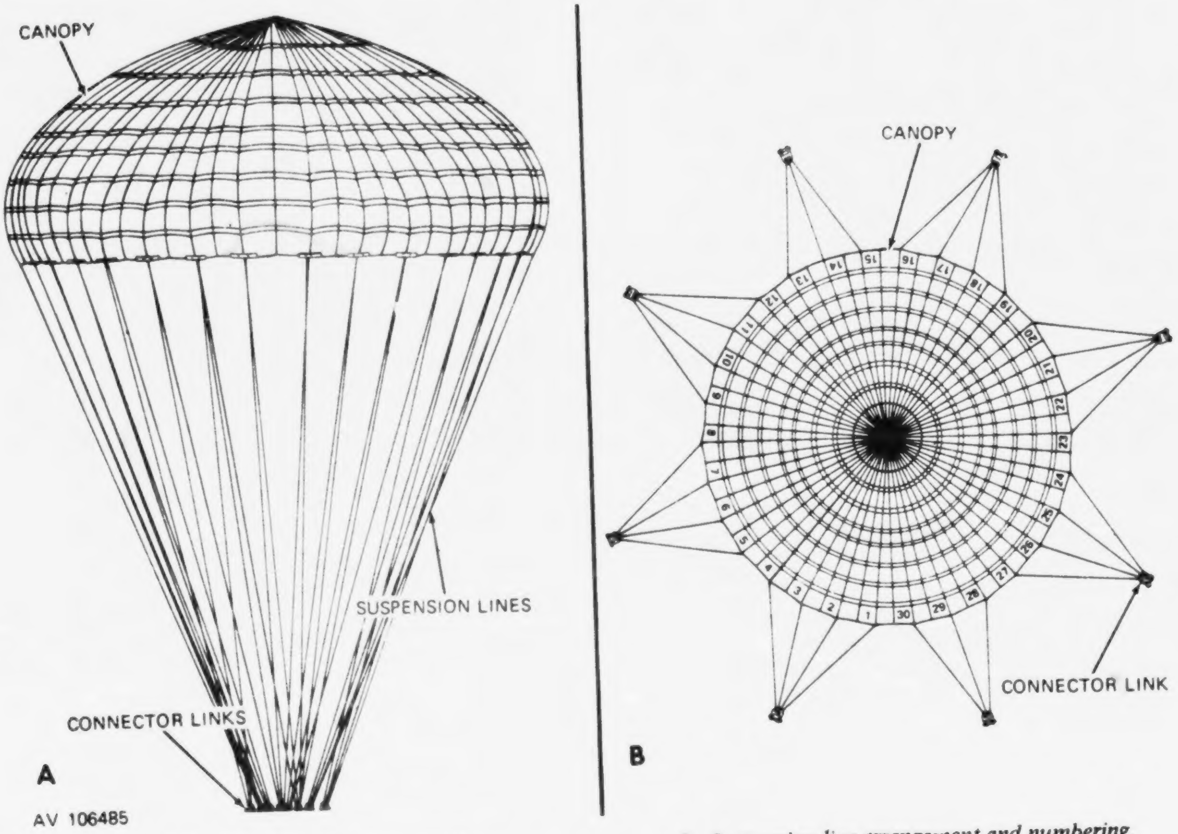

BAG RETAINING LINE
SUSPENSION LINE STORAGE FLAP
AV 106484

Figure 1–25. The 22-foot-diameter cargo extraction parachute deployment bag.


CANOPY
SUSPENSION LINES
CONNECTOR LINKS
A
AV 106485
CANOPY
CONNECTOR LINK
B

A. Side view of the canopy assembly.

B. Suspension line arrangement and numbering.

Figure 1–26. The 28-foot-diameter cargo extraction parachute canopy assembly.

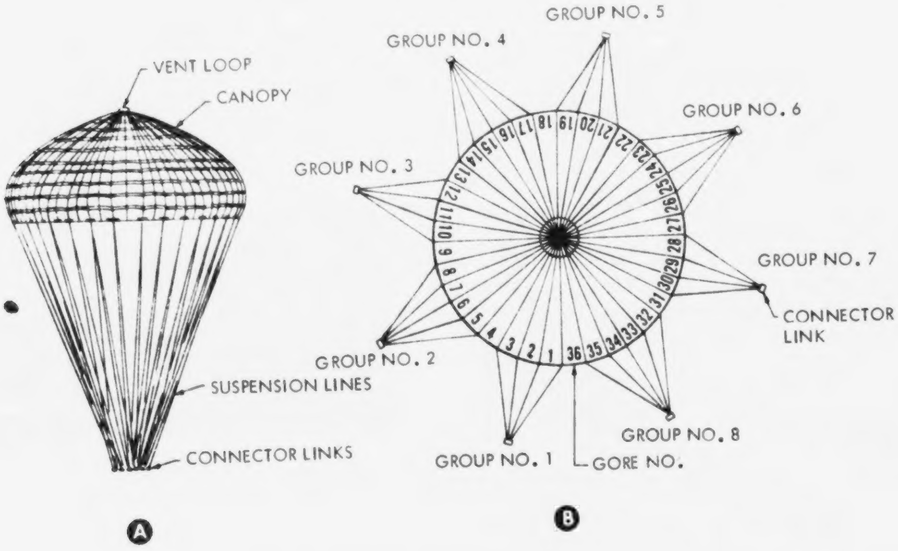

VENT LOOP
CANOPY
SUSPENSION LINES
CONNECTOR LINKS
GROUP NO. 1
GROUP NO. 2
GROUP NO. 3
GROUP NO. 4
GROUP NO. 5
GROUP NO. 6
GROUP NO. 7
GROUP NO. 8
CONNECTOR LINK
GORE NO.
A
B

Figure 1–26A. Ringslot canopy assembly.

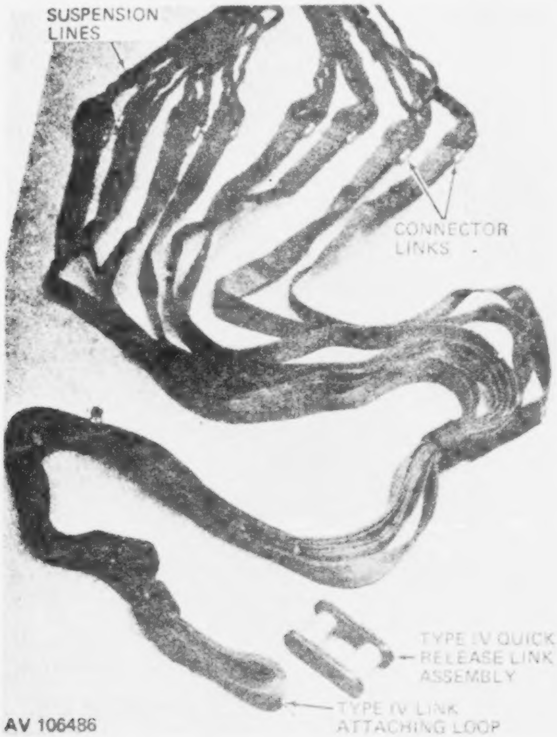

SUSPENSION LINES
CONNECTOR LINKS
TYPE IV QUICK RELEASE LINK ASSEMBLY
TYPE IV LINK ATTACHING LOOP
AV 106486

Figure 1–27. The 28-foot-diameter cargo extraction parachute 9-foot-long adapter web and type IV link assembly.

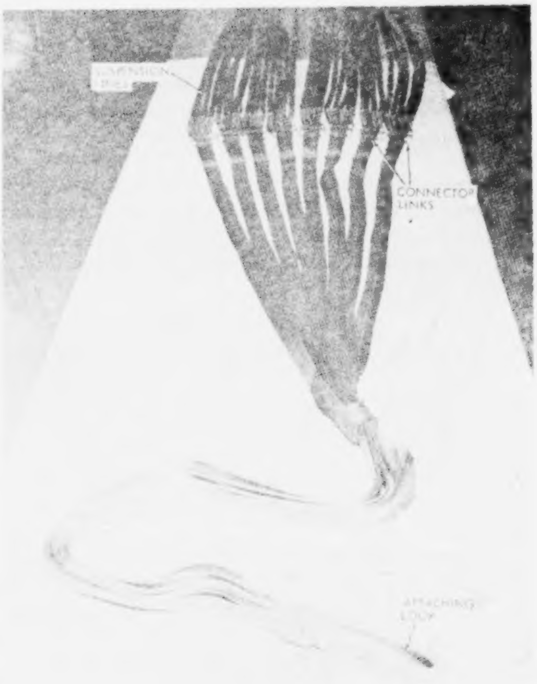

SUSPENSION LINES
CONNECTOR LINKS
ATTACHING LOOP

Figure 1–27A. The heavy duty 28-foot-diameter cargo extraction parachute 106-inch long adapter web.

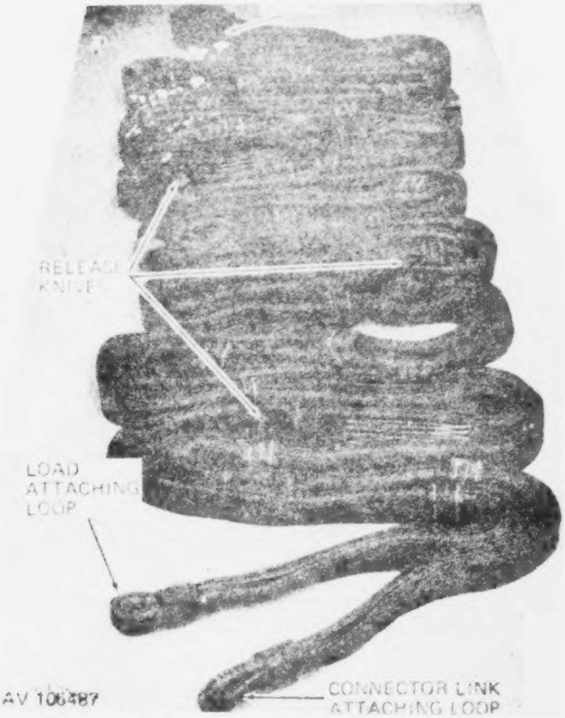

RELEASE KNIVES
LOAD ATTACHING LOOP
CONNECTOR LINK ATTACHING LOOP
AV 106487

Figure 1–28. The 60–foot–long 8–ply nylon extraction line.

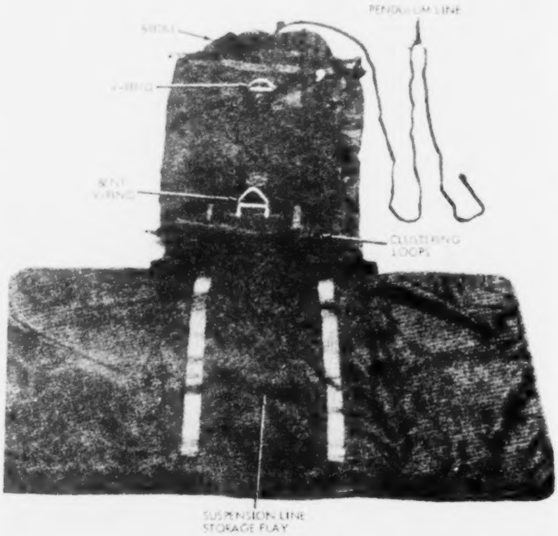

MOUTH
PENDULUM LINE
V-RING
BENT V-RING
CLUSTERING LOOPS
SUSPENSION LINE STORAGE FLAY

Figure 1–29. The 28–foot–diameter cargo extraction parachute deployment bag.

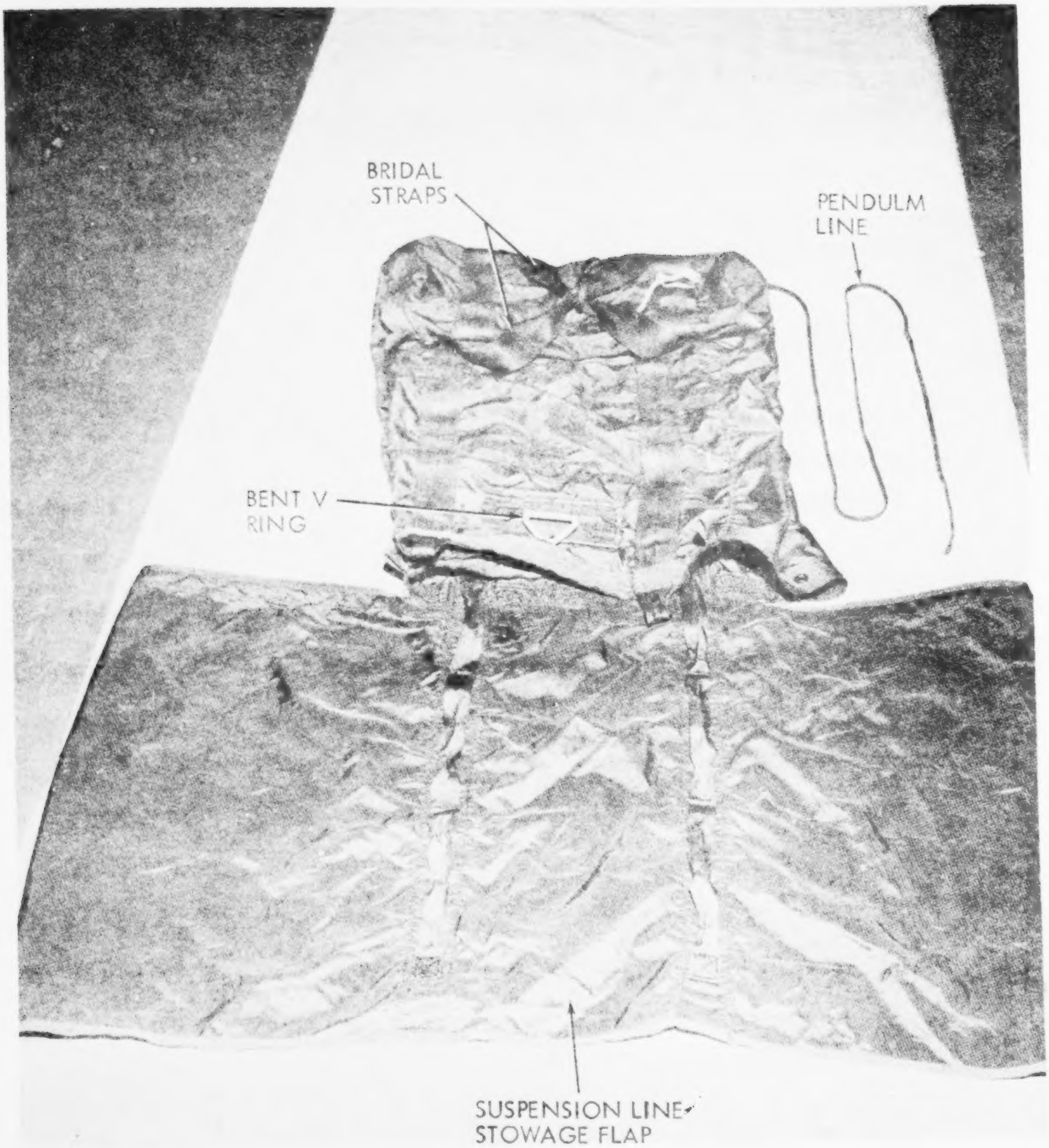

BRIDAL STRAPS
PENDULM LINE
BENT V RING
SUSPENSION LINE STOWAGE FLAP

Figure 1–29A. The heavy duty 28-foot-diameter cargo extraction parachute deployment bag.

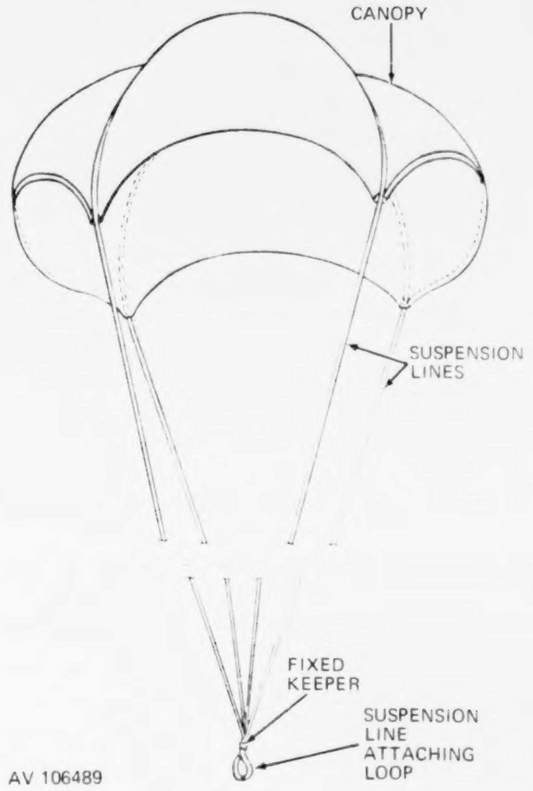

CANOPY
SUSPENSION LINES
FIXED KEEPER
SUSPENSION LINE ATTACHING LOOP
AV 106489

Figure 1–30. The 3-foot-square cargo pilot parachute canopy assembly.

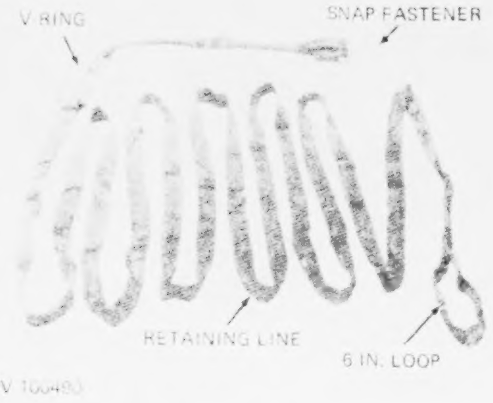

V RING
SNAP FASTENER
RETAINING LINE
6 IN. LOOP
AV 106490

Figure 1–31. The 3-foot-square cargo pilot parachute retaining line.

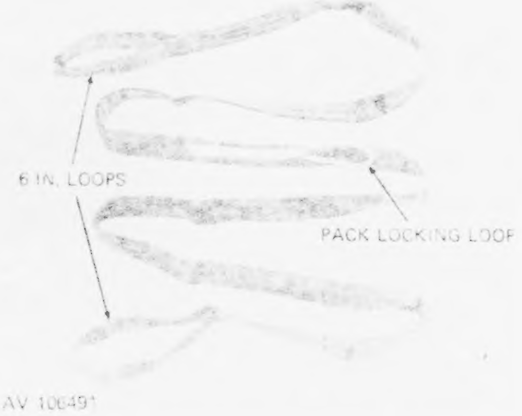
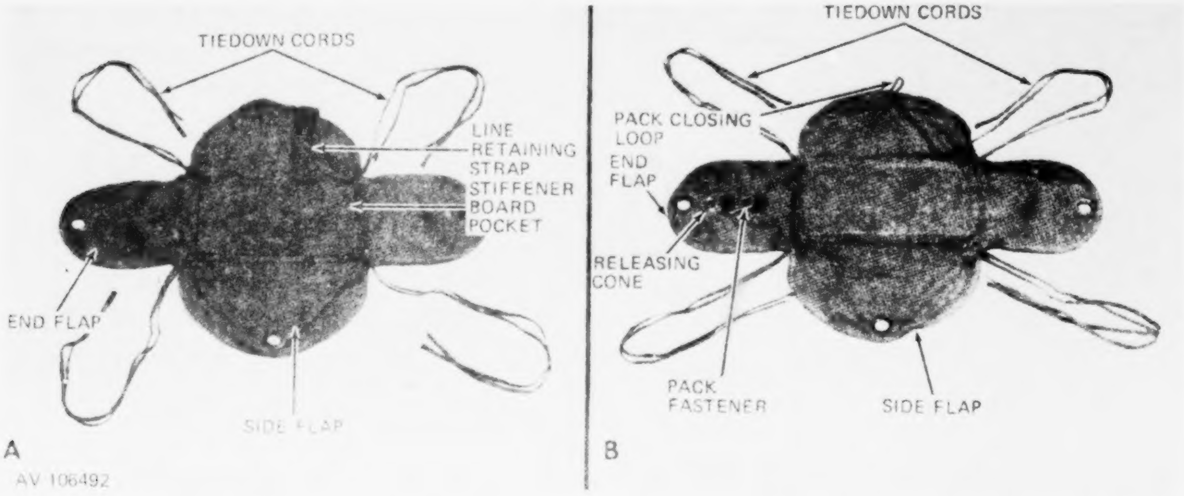

6 IN. LOOPS
PACK LOCKING LOOP
AV 106491

Figure 1–32. The 3-foot-square cargo pilot parachute deployment weight bridle line.


TIEDOWN CORDS
LINE RETAINING STRAP
STIFFENER BOARD POCKET
END FLAP
SIDE FLAP
A
AV 106492
TIEDOWN CORDS
PACK CLOSING LOOP
END FLAP
RELEASING CONE
PACK FASTENER
SIDE FLAP
B

A. Outside view

B. Inside view.

Figure 1–33. The 3-foot-square cargo pilot parachute pack.

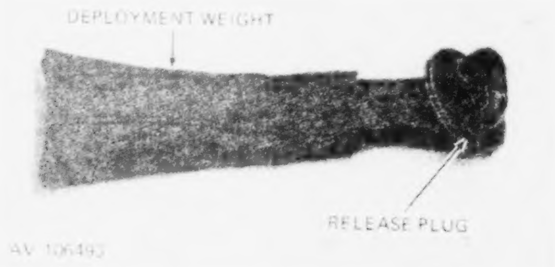

DEPLOYMENT WEIGHT
RELEASE PLUG
AV 106493

Figure 1–34. The 3-foot-square cargo pilot parachute deployment weight.

1–7. Tabulated Data

a. The 12-Foot-Diameter High-Velocity Cargo Parachute.

(1) *General.*	
Total weight (packed for use)	7.75 pounds
Dimensions (packed for use)	14-inches-long by 10-inches-wide by 5-inches-high
Cube (packed for use)	0.4 cubic feet
(2) *Assembly specifics.*	
(a) *Canopy assembly.*	
Shape	Flat-circular
Diameter	12 feet
Design	Ringslot

Number of gores	14
Number of sections per gore	3
Gore material	Type III, 3.8-ounce cotton muslin cloth
Number of vent lines	7
Number of suspension lines	14
Number of pocket bands	14
Suspension line material	Type I coreless nylon cord
Suspension line length (Riser suspension line attaching loop to canopy skirt)	12 feet
Canopy length (Skirt reinforcement tape to vent reinforcement tape)	55 1/2 inches

(b) Riser assembly.

Riser length	30 inches
Number of riser clevises used	2

(c) Deployment bag.

Bag length	14 inches
Bag width	13 1/2 inches

(d) Static line.

Static line length	15 feet
Number of riser clevises used	1

b. The G-13 24-Foot-Diameter Cargo Parachute.

(1) *General.*

Total weight (packed for use)	45 pounds
Dimensions (packed for use)	16-inches-long by 16-inches-wide by 13-inches-high
Cube (packed for use)	2.0 cubic feet

(2) *Assembly specifics.*

(a) Canopy assembly.

Shape	Parabolic
Diameter	
Nominal	32.4 feet
Skirt	24 feet
Number of gores	20
Number of panels per gore	5
Gore material	Type II, 3.7-ounce cotton muslin cloth
Number of bridle lines	4
Number of suspension lines	20
Suspension line material	Type I braided rayon cord
Suspension line length (Risers to hanger line)	30 feet
Canopy length (Hanger line to center of crown)	12 feet

(b) Riser assembly.

Riser length	30 inches

(c) Pack assembly.

Bag height	15 inches
Bag width	16 3/4 inches
Bag length	16 3/4 inches

(d) Static line.

Static line length	15 1/2 feet
Number of riser clevises used	1

(e) Static line drogue.

Body length	9 inches
Number of vanes	4
Individual vane length	3 1/2 inches
Attaching cord material	Type III nylon cord
Attaching cord finished loop length	5 3/4 inches

c. *The 26-Foot-Diameter High-Velocity Cargo Parachute.*

(1) *General.*

Total weight (packed for use)	22 pounds
Dimensions (packed for use)	20-inches-long by 17-inches-wide by 10-inches-high
Cube (packed for use)	2.0 cubic feet

(2) *Assembly specifics.*

(a) Canopy assembly.

Shape	Flat-circular
Diameter	26 feet
Design	Ringslot
Number of gores	26
Number of sections per gore	8
Gore material	Type III, 3.8-ounce cotton muslin cloth
Number of vent lines	13
Number of suspension lines	26
Number of pocket bands	26
Suspension line material	Type II coreless nylon cord
Suspension line length (Riser suspension line attaching loop to canopy skirt)	26 feet
Canopy length (Skirt reinforcement tape to vent reinforcement)	142 3/4 inches

(b) Riser assembly.

Riser length	30 inches
Number of 3/4-inch suspension clevises used	1

(c) Deployment bag.

Bag length	23 1/4 inches
Bag width	19 inches

(d) Static line.

Static line length	15 feet
Number of riser clevises used	1

d. The G-14 34-Foot-Diameter Cargo Parachute.

(1) *General.*

Total weight (packed for use)	37 pounds
Dimensions (packed for use)	16-inches-long by 16-inches-wide by 13-inches-high
Cube (packed for use)	2.0 cubic feet

(2) *Assembly specifics.*

(a) Canopy assembly.

Design	Bi-conical with annular ring
Diameter (at skirt)	34 feet
Canopy material	Type III, 3.8-ounce cotton muslin cloth
Number of gores	32
Number of panels per gore	2
Number of radial tapes	32
Number of vent lines	16
Vent line material	Type IA coreless nylon cord
Number of suspension lines	32
Suspension line material	Type IA coreless nylon cord
Suspension line length (Risers to skirt reinforcement)	27 1/2 feet
Number of suspension line reinforcing loops (V-tabs)	32

(b) Riser assembly.

Number of riser straps	4
Number of riser clevises used	2

(c) Pack assembly.

Bag height	15 inches
Bag width	16 3/4 inches
Bag length	16 3/4 inches

(d) Static line.

Length	15 1/2 feet
Number of riser clevises used	1

(e) Static line drogue.

Body length	9 inches
Number of vanes	4
Individual vane length	2 3/4 inches
Attaching cord material	Type III nylon cord
Attaching cord finished loop length	5 3/4 inches

e. *The 38-Foot-Diameter RCAT Cargo Parachute.*

(1) *General.*

Total weight (packed for use)	21 pounds
Dimensions (packed for use)	22-inches-long by 9-inches-wide by 12-inches-high
Cube (packed for use)	1.3 cubic feet

(2) *Assembly specifics.*

(a) *Canopy assembly.*

Shape	Flat-circular
Diameter	38 feet
Number of gores	38
Number of sections per gore	5
Gore material	Type I, 1.1-ounce nylon parachute cloth
Number of vent lines	19
Number of suspension lines	38
Suspension line material	Type II nylon cord
Suspension line length (Dee ring to skirt reinforcement)	30 feet
Canopy length (Skirt reinforcement to vent reinforcement)	213 inches
Number of dee rings	2

(b) *Pilot parachute.*

Material	Type I, 1.1-ounce nylon parachute cloth
Type	Vane
Diameter	36 inches
Number of canopy panels	8
Number of vanes	8
Number of suspension lines	8
Spring length	20 inches

(c) *Parachute pack bag.*

Material	Flexible waterproof barrier material

f. *The G-12C and G-12D 64-Foot-Diameter Cargo Parachutes.*

(1) *General.*

Total weight (packed for use)	128 pounds
Dimensions (packed for use)	G-12C – 25-inches-long by 25-inches-wide by 25-inches-high G-12D – 35-inches-long by 24-inches wide by 12-inches-high
Cube (packed for use)	G-12C – 9.0 cubic feet G-12D – 5.7 cubic feet

(2) *Assembly specifics.*

(a) *Canopy assembly.*

Shape	Flat-circular
Diameter	64 feet
Number of gores	64
Number of sections per gore	8
Gore material	Type I, 2.25-ounce nylon parachute cloth
Number of canopy lines	32
Canopy line material	Type IV coreless nylon cord
Canopy line length	166 feet
Number of suspension lines	64
Suspension line length	51 feet
Number of radial lines	64
Radial line length	30 feet
Number of vent lines	32
Vent line length	4 feet
Number of suspension line reinforcements (V-tabs)	64
Number of pocket bands	64
Number of risers	2
Riser length	65 inches
Number of connector links	8
Number of 3/4-inch suspension clevises used	1
Radial seam reinforcement tapes	192 (when present)

(b) *G-12C pack.*

Type pack	Envelope
Pack dimensions	16-inches-wide by 25-inches-long by 20 1/4-inches-high

(c) *G-12D deployment bag.*

Type bag	Locking-closure
Bag dimensions	24-inches-wide by 36-inches-long by 10-inches-high

(d) *Pilot parachute*

Shape	Flat-octagonal
Diameter	68 inches
Canopy material	Type I, 1.1- or type II, 1.6-ounce nylon cloth
Number of suspension lines	8
Suspension line material	Type III nylon cord or type II coreless nylon cord
Number of connector links	1

(e) *Deployment line.*

Length	111 inches
Number of connector links	1

(*f*) *Static line.*

Length	15 feet
Tiedown loops	4
Number of riser clevises used	1

g. The G-11A 100-Foot-Diameter Cargo Parachute.

(1) *General.*

Total weight (packed for use)	250 pounds
Dimensions (packed for use)	35 1/2-inches-wide by 48 5/16-inches-long by 12-inches-high
Cube (packed for use)	11.9 cubic feet

(2) *Assembly specifics.*

(*a*) *Canopy assembly.*

Shape	Flat-circular
Diameter	100 feet
Number of gores	120
Number of sections per gore	13
Gore material	Type II, 1.6-ounce nylon parachute cloth
Number of suspension lines	120
Length of suspension lines	35 feet
Number of suspension riser assemblies	3
Length of suspension riser assemblies	60 feet
Reefing line length	22 feet
Reefing line material	1/2-inch-wide tubular nylon webbing

(*b*) *M-21 reefing line cutter.*

Method of activation	Arming cable
Method of actuation	Explosive powder
Firing time delay	2 seconds

(*c*) *Deployment bag.*

Type bag	Locking-closure

h. The 15-Foot-Diameter Cargo Extraction Parachute.

(1) *General.*

Total weight (packed for use)	27 pounds
Dimensions (packed for use)	17-inches-long by 10-inches-wide by 9-inches-high
Cube (packed for use)	0.9 cubic feet

(2) *Assembly specifics.*

(*a*) *Canopy assembly.*

Shape	Flat-circular
Diameter	15 feet

Design	Ringslot
Number of gores	16
Number of sections per gore	5
Gore material	Type I, 2.25-ounce nylon cloth
Number of vent lines	4
Number of suspension lines	16
Suspension line material	Type IV coreless nylon cord
Suspension line length (Connector link to lower lateral band)	15 feet
Canopy length (Lower lateral band to upper lateral band)	7 feet
Number of pocket bands	16
Number of connector links	2
Reefing line length	148 inches or 260 inches
Reefing line material	1-inch-wide tubular nylon

(b) *Deployment bag.*

Pendulum line material	Type IV coreless nylon cord
Pendulum line length	85 inches (cut length)

(c) *Extraction line.*

Length	60 feet
Number of release knives	1
Number of ply	2

i. *The 22-Foot-Diameter Cargo Extraction Parachute.*

(1) *General.*

Total weight (packed for use)	61 pounds
Dimensions (packed for use)	24-inches-long by 18-inches-wide by 8-inches-high
Cube (packed for use)	2.0 cubic feet

(2) *Assembly specifics.*

(a) *Canopy assembly.*

Shape	Flat-circular
Diameter	22 feet
Design	Ringslot
Number of gores	28
Number of panels per gore	7
Gore panel material	Type II, 3.5-ounce nylon cloth
Number of vent lines	14
Number of suspension lines	28
Suspension line material	Type V coreless nylon cord
Suspension line length (Connector link to canopy skirt)	22 feet

Canopy length (Skirt reinforcement to vent reinforcement)	10 feet
Number of pocket bands	28
Number of connector links	6

(b) Deployment bag

Pendulum line material	Type IV coreless nylon cord
Pendulum line length	85 inches (cut length)

(c) Extraction line

Length	60 feet
Number of ply	6
Number of release knives	3

(d) Adapter web

Length	5 feet
Number of ply	6

j. The 28-Foot-Diameter Cargo Extraction Parachute

(1) General

Total weight (packed for use)	75 pounds
Dimensions (packed for use)	30-inches-long by 18-inches-wide by 12-inches-high
Cube (packed for use)	3.6 cubic feet

(2) Assembly specifics

(a) Canopy assembly

Shape	Flat-circular
Diameter	28 feet
Design	Kingslot
Number of gores	30
Number of canopy sections per gore	8
Canopy section material	Type I, 2.25-ounce nylon parachute cloth
Number of vent lines	15
Number of suspension lines	30
Suspension line material	Type VI coreless nylon cord
Suspension line length (Connector links to canopy skirt)	28 feet
Canopy length (Skirt reinforcement to vent reinforcement)	13 feet
Number of pocket bands	30
Number of connector links	8

(b) Deployment bag

Pendulum line material	Type IV coreless nylon cord
Pendulum line length	85 inches (cut length)

(c) Extraction line.

Length	60 feet
Number of ply	8
Number of release knives	3

(d) Adapter web.

Length	9 feet
Number of ply	8

k. The 3-Foot-Square Pilot Parachute.

(1) *General.*

Total weight (packed for use)	8 pounds
Dimensions (packed for use)	8-inches-long by 4 1/2-inches-wide by 4-inches-high
Cube (packed for use)	0.08 cubic feet

(2) *Assembly specifics.*

(a) Canopy assembly.

Size and shape	3 feet square
Number of canopy panels	4
Canopy panel material	Type I, 4.25-ounce cotton muslin cloth or type II, 1.6-ounce nylon parachute cloth
Number of suspension lines	4
Length of suspension lines	36 inches
Suspension line material	1-inch-wide type II cotton or nylon webbing

(b) Retaining line.

Length	235 1/2 inches

(c) Deployment weight bridle line.

Length	115 inches

(d) Deployment weight.

Weight	7 pounds

CHAPTER 2

CARGO PARACHUTE PACKING INSTRUCTIONS

Section I. GENERAL PACKING PROCEDURES

2–1. General

Each cargo parachute to which this publication applies may be packed for use upon completion of the requirements stipulated in paragraphs 3-1 and 3-2, as applicable. Additionally, each cargo parachute shall be inspected as required by paragraph 3-4 and repacked at scheduled intervals as directed by TM 10-1670-201-23/TO 13C-1-41. In the case of medium and large cargo parachutes, more than one individual may be required to participate in inspection and repack and will be indicated accordingly when performing specific procedures. Upon completion of pack, and if applicable, the parachute inspection data record (DA Form 10-42 or 3912) shall be accomplished as outlined in TM 10-1670-201-23/TO 13C-1-41.

NOTE

> Throughout this manual the terms right, left, upper, lower, clockwise, counterclockwise, top, and bottom indicate the direction, as viewed by the rigger, looking from the parachute risers toward the canopy vent.

2–2. Equipment Requirements

Common tools and equipment used in the packing of cargo parachutes are prescribed in Appendix D and authorized by the applicable unit Table of Organizational Equipment (TOE). Field expedient items are detailed in TM 10-1670-201-23/TO 13C-1-41.

2–3. Pack-In-Process Inspection

The pack-in-process inspection shall be conducted by a rigger supervisor, other than the packer, during the applicable parachute packing process. This inspection is required to insure that only authorized packing procedures are used. The prescribed intervals to conduct the pack-in-process inspection according to the cargo parachute type are as follows:

a. *High-Velocity Cargo Parachutes (12- and 26-Foot-Diameter).*

(1) After canopy is placed in proper layout.

(2) Gore folding and flatfold completed.

(3) Longfold completed and breakcord tie installed.

(4) Canopy stowed and deployment bag closing tie made.

(5) Suspension lines stowed and deployment bag closure completed.

(6) Pack completed.

b. *G-13 24-Foot-Diameter and 38-Foot-Diameter RCAT Cargo Parachutes.*

(1) After canopy is placed in proper layout.

(2) Gores folded and flatfold completed.

(3) Skirt hesitator tie completed, if applicable.

(4) Suspension line stowage completed.

(5) Canopy stowed and breakcord tied, if applicable.

(6) Pack closure completed.

(7) Upon completion of static line stowage.

c. G-14 34-Foot-Diameter Cargo Parachute.

(1) After the canopy is in proper layout.

(2) Gores folded and flatfold completed.

(3) Longfold completed.

(4) Suspension line stowage completed.

(5) Canopy stowed and breakcord tied.

(6) Pack closure completed.

(7) Upon completion of static line stowage.

d. G-12D 64-Foot-Diameter Cargo Parachute.

(1) After canopy is placed in proper layout.

(2) Gore folding, canopy ties, line ties and connector link ties are completed.

(3) Canopy stowage completed and locking stows made.

(4) Stowage of suspension lines and risers completed.

(5) Deployment bag closure completed.

(6) When applicable, attach and secure pilot parachute to main cargo deployment bag and secure pilot parachute static line to main cargo parachute deployment bag.

e. G-12C 64-Foot-Diameter Cargo Parachute.

(1) After canopy is placed in proper layout.

(2) Gore folding completed.

(3) Canopy and suspension line ties installed.

(4) Skirt hesitator tie completed.

(5) Suspension line stowage completed.

(6) Canopy stowage completed and static line has been attached.

(7) Pack closure completed and stati line secured to pack.

f. G-11A 100-Foot-Diameter Cargo Parachute.

(1) After canopy is placed in proper layout and M-21 reefing line cutters are installed.

(2) Gore folding completed and reefing line installed.

(3) Canopy, suspension line, connector link and riser ties completed.

(4) Installation of breakcord tie, stowing of canopy and arming of reefing line cutters.

(5) After first regular stow.

(6) Deployment bag closure completed, and suspension lines and risers stowed.

(7) Deployment bag lacing completed.

g. Extraction Parachutes (15-, 22-, and 28-Foot-Diameter).

(1) After canopy is placed in proper layout.

(2) Gore folding and flatfold completed.

(3) Longfold completed and deployment bag is attached.

(4) Canopy stowage completed.

(5) Suspension line stowage completed.

(6) Deployment bag closure completed.

(7) Extraction line or release line, as applicable, connected and stowage completed.

h. The 3-Foot-Square Cargo Pilot Parachute.

(1) After canopy is placed in proper layout.

(2) Canopy folded and retaining line and bridle line stowed.

(3) Canopy stowage completed.

(4) Pack closure completed.

2–4. Proper Layout of Small Cargo and Extraction Parachutes

Small cargo (12- and 26-foot-diameter high-velocity, G-13 24-foot-diameter, G-14 34-foot-diameter, 38-foot-diameter RCAT) and extraction parachutes are placed in proper layout by positioning the applicable canopy on a packing table. Connect the connector links, dee rings, or suspension line loops, as applicable, to the packing table tension plate and elongate the canopy. To complete the proper layout perform the following:

NOTE

To place a 3-foot-square pilot parachute in proper layout, insure the canopy is not inverted, the suspension lines are straight, and the canopy is dressed.

NOTE

When placing the 12-foot and 26-foot-diameter, high-velocity cargo parachutes in proper layout, check the canopy vent lines for the presence of a bridle loop. If a bridle loop is not present, fabricate and install a bridle loop using the applicable procedures in chapter 3. In addition, after placing a 22-foot-diameter cargo extraction parachute in proper layout, insure a type V coreless nylon cord suspension line spacer as shown in figure 3-129 is installed between lines 7 and 8, and also between lines 21 and 22.

NOTE

When inversion, turns, tangles, and twists are present in a canopy assembly, the proper sequence for removal to achieve proper layout is to remove an inversion first, remove turns secondly, then remove tangles, and finally, remove twists.

a Canopy Inversion. The canopy vent or bridle lines shall be checked to ascertain if the canopy has been inverted. Should the bridle lines be located on the inside of the canopy or if the vent lines are on the inside of the upper lateral band, the canopy is inverted. Remove a small cargo or extraction parachute canopy inversion by passing the canopy vent or crown, as applicable, down through the canopy and out of the canopy skirt between two adjacent suspension lines (fig. 2-1). Attach the canopy to the vent attaching hook on the packing table.

b. An Annular Ring and Ringslot Canopy Partial Inversion. A partial inversion may occur in a G-14 34-foot-diameter cargo parachute canopy with an annular ring or an extraction parachute with a ringslot-type canopy. If the vent lines are on the outside of the canopy and the pocket bands are on the inside, or vice versa, a partial inversion exists. Remove the partial inversion by tracing the radial and vertical tapes to the annular ring or ringslot, as applicable, where the tapes turn under to the canopy inside. Pull the canopy vent or the risers through the canopy and out through the annular ring or the applicable ringslot. Attach the canopy to the vent attaching hook on the packing table.

c. Locating Suspension Lines in Proper Layout. Locate the top center gore of the applicable canopy and divide the suspension lines into two groups according to specifics in table 2-1. Place a packing weight around the right group of lines to maintain separation between the two line groups. Remove any turns, tangles, or twists from the suspension lines as follows:

(1) *Turns.* A turn occurs when one group of suspension lines rotates around the opposite group of lines. To remove a turn in the suspension lines, remove the connector links, dee rings, or suspension line loops, as applicable, from the tension plate. Rotate the suspension lines in a direction opposite to the direction of the turn (fig. 2-2). Reattach the suspension lines to the tension plate.

(2) *Tangles.* To remove a tangle, or tangles, from the suspension lines (fig. 2-3), maintain a separation between the two line groups. Work the tangle(s) to a point close to the tension plate and remove the suspension lines from the tension plate. Select the top line(s) forming the tangle and using the left hand, lift the top line(s) away from the remaining lines. Using the right hand, reach through the formed opening and pull the risers through the opening. Repeat this procedure to remove each tangle. Reattach the suspension lines to the tension plate.

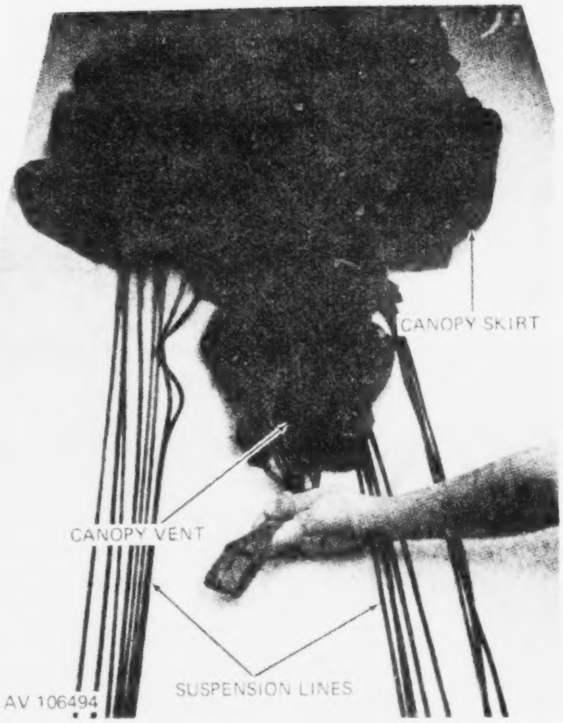


Figure 2-1. Removing a canopy inversion on small cargo and extraction parachutes, typical.

(3) *Twists.* A twist occurs when the suspension lines in one group become improperly crossed. Refer to table 2-1 for the applicable suspension line numbers and the line positions on the related connector links, dee rings, or suspension line loops. Grasp the top inside suspension lines at the canopy skirt and trace the lines to the bottom end (fig. 2-4). Remove the applicable

Table 2–1. Location of Suspension Lines in Proper Layout

Type parachute	Left group	Right group	Inside of top connector links	Inside of bottom connector links
12-foot high-velocity	1 thru 7	8 thru 14	1 and 14	7 and 8
G-13	1 thru 10	11 thru 20	1 and 20	10 and 11
26-foot high-velocity	1 thru 13	14 thru 26	1 and 26	13 and 14
G-14	1 thru 16	17 thru 32	1 and 32(1)	16 and 17(1)
38-foot (RCAT)	1 thru 19	20 thru 38	(2)	(3)
G-12C and G-12D	1 thru 32	33 thru 64	1 and 64	32 and 33
G-11A	1 thru 60	61 thru 120	1 and 120	60 and 61
15-foot extraction	1 thru 8	9 thru 16	1 and 16	(4)
22-foot extraction	1 thru 14	15 thru 28	1 and 28	14 and 15
28-foot extraction	1 thru 15	16 thru 30	1 and 30	15 and 16
3-foot pilot parachute	(4)	(4)	(4)	(4)

(1) Lines are stitched to risers without the use of connector links.

(2) Line 1 is located on the outside bottom of the left dee ring and line 19 is located on the inside top of the left dee ring.

(3) Line 20 is located on the outside top of the right dee ring and line 38 is located on the inside bottom of the right dee ring.

(4) Not applicable.

suspension line group from the tension plate. Rotate the risers or dee rings until the suspension lines are in proper order. Reattach the suspension lines to the tension plate.

d. Canopy Layout. Check the canopy assembly for proper layout by raising the top center gore and the bottom center gore at the canopy skirt and tracing the suspension lines to the connector links or dee rings, as applicable. Insure the suspension lines are in order as indicated in table 2-1 to complete the proper layout of the canopy.

2–5. Proper Layout of Medium and Large Cargo Parachutes

Medium (G-12C and G-12D 64-foot-diameter) and large (G-11A 100-foot-diameter) cargo parachutes are placed in proper layout by positioning the applicable canopy in an elongated manner on a suitable packing surface with the

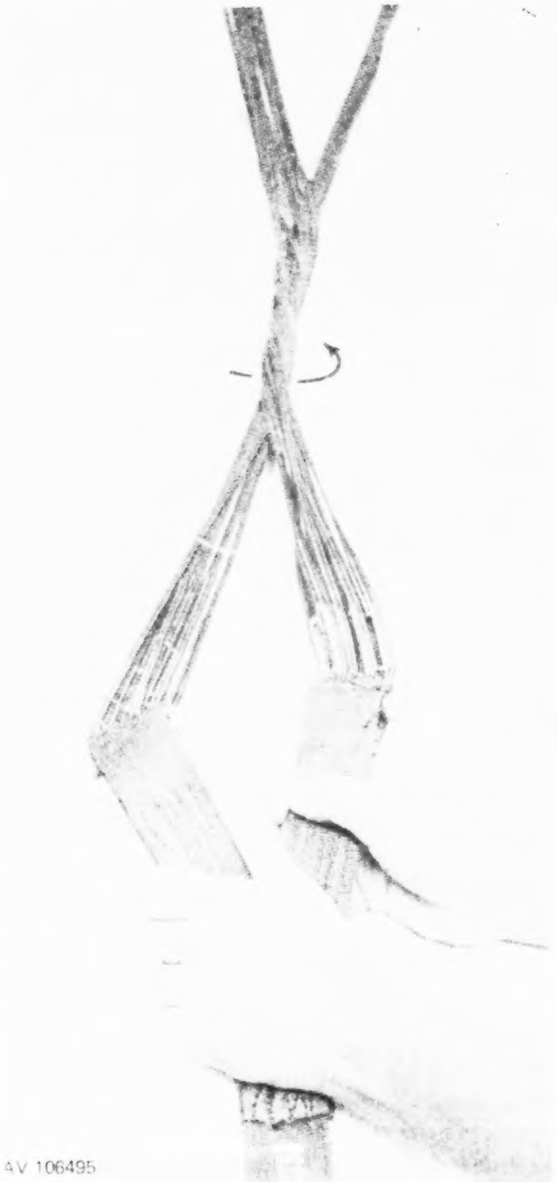


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Figure 2–2. Removing suspension line turns from small cargo and extraction parachutes, typical.

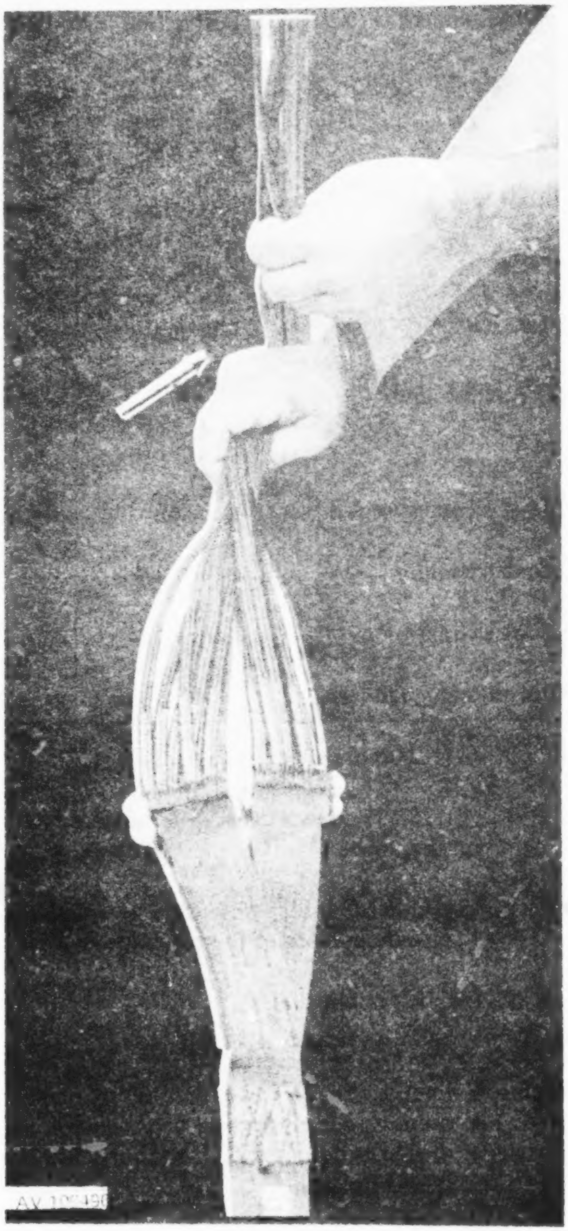

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Figure 2–3. Removing suspension line tangles from small cargo and extraction parachutes, typical.

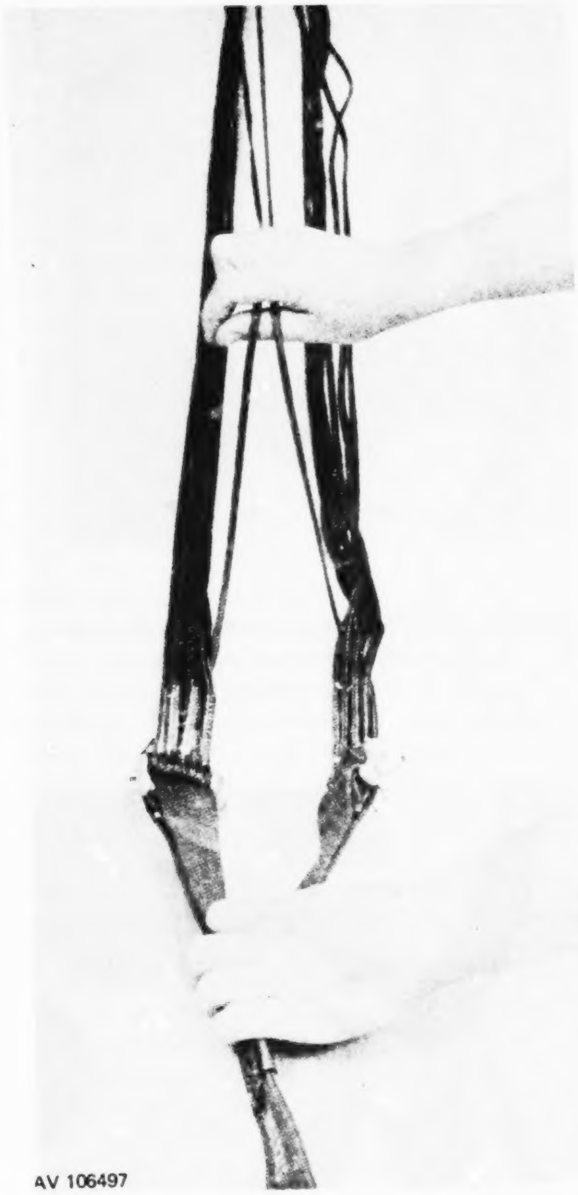


Figure 2–4. Tracing small cargo and extraction parachute suspension lines, typical.

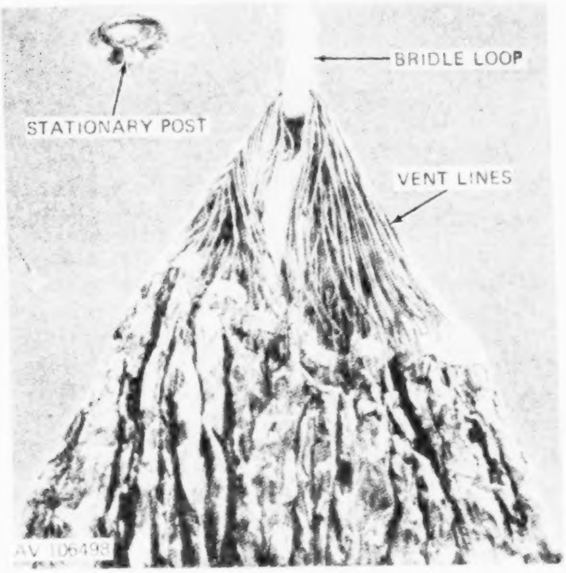


Figure 2–5. Canopy vent positioned at stationary post, typical.

vent lines located adjacent to a stationary post (fig. 2-5) and the suspension risers near a tension device. As applicable, disconnect the pilot parachute, static line, or deployment line. Additionally, remove the reefing line cutter tags and cotter pins from the G-11A canopy attaching loop (bridle loop). To complete the proper layout of the canopy perform the following:

a. Canopy Inversion. Inspect the canopy vent lines to ascertain if the canopy is inverted. If the vent lines are located on the inside of the upper lateral band the canopy is inverted. To remove the inversion, lift the canopy skirt and walk through the canopy to the vent area. Grasp the bridle loop and pull the canopy vent down through the canopy skirt between two adjacent suspension lines (fig. 2-6). On the outside of the canopy, pull the canopy vent back to the stationary post. Attach the bridle loop to the post.

b. Locating Suspension Lines in Proper Layout. Locate the top center gore of the applicable canopy and divide the suspension lines into two groups according to specifics in table 2-1. Maintain the line group separation and remove any turns, tangles, or twists from the suspension lines as follows:

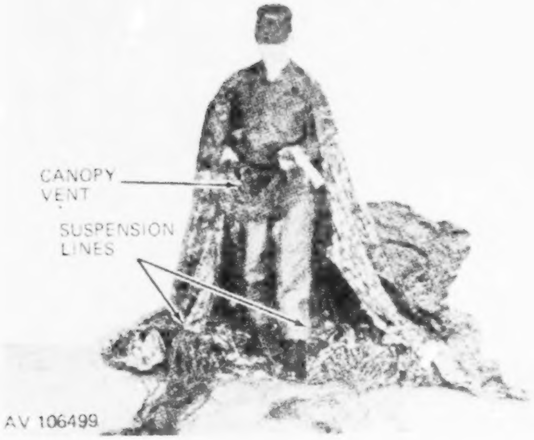


Figure 2–6. Pulling the canopy vent between two adjacent suspension lines, typical.

(1) *Turns.* A turn in suspension lines is defined in paragraph 2-4c.(1). Remove a turn in medium and large cargo parachute suspension lines (fig. 2-7) by rotating the suspension risers in a direction opposite to that of the turn.

(2) *Tangles (G-12C and G-12D 64-foot-diameter cargo parachutes).* To remove a tangle or tangles in G-12C or G-12D cargo parachute suspension lines (fig. 2-8), begin by maintaining suspension line group separation and work the tangle(s) to a point as close as possible to the connector links. Select the top line(s) forming the tangle, and using the left hand lift the line(s) away from the lines in the group. Using the right hand, reach through the opening formed by the raised lines and pull the suspension risers through the opening. Repeat this procedure to remove each remaining tangle in either group of suspension lines.

(3) *Tangles (G-11A 100-foot-diameter cargo parachute).* To remove a tangle or tangles in G-11A cargo parachute suspension lines (fig. 2-9), begin by separating lines 1 through 40 from the canopy skirt to the connector link assemblies.

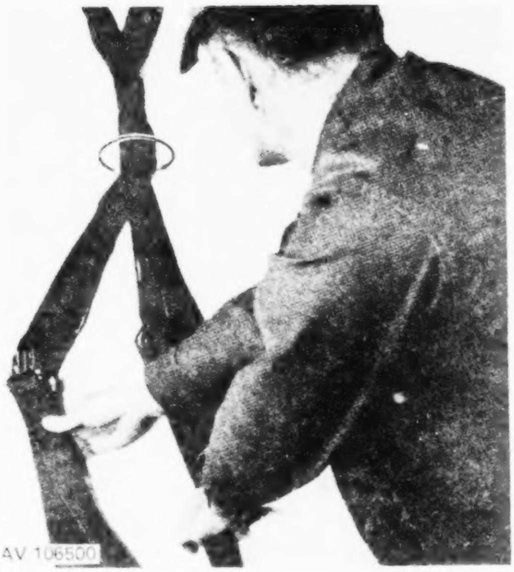


Figure 2–7. Removing a turn in medium and large cargo parachute suspension lines, typical.

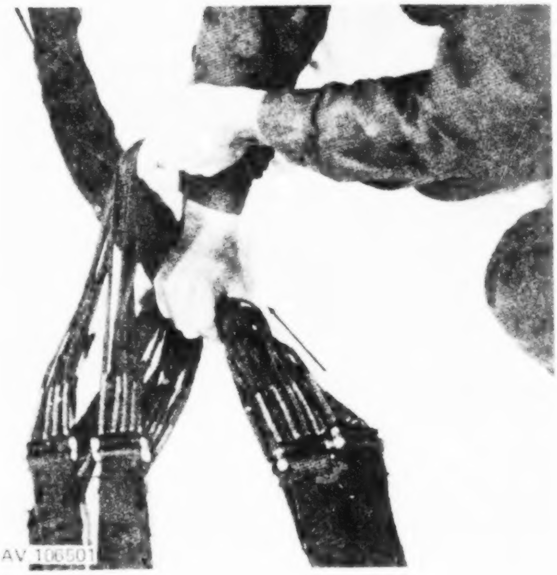


Figure 2–8. Removing tangles from G-12C and G-12D 64-foot-diameter cargo parachute suspension lines.

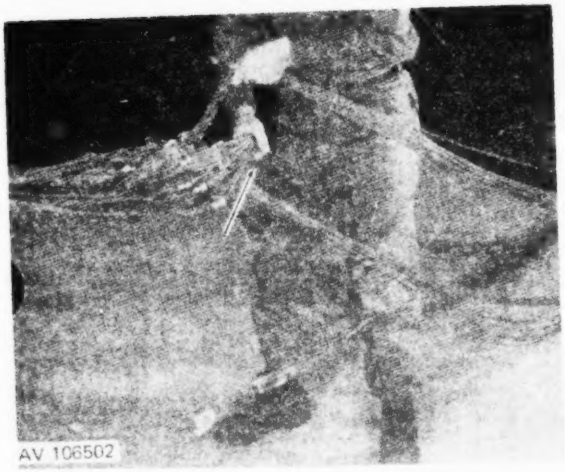


Figure 2–9. Removing tangles from G-11A 100-foot-diameter cargo parachute suspension lines.

While separating the lines, place all lines which pass over the top of the group over one forearm. Grasp the four connector link assemblies which have lines 1 through 40 attached and pull the connector link assemblies and the suspension risers through the remaining suspension lines. ginning with line 41, count 40 more lines and at the above procedure to remove tangles om the remaining groups of lines.

(4) *Twists.* A twist in suspension lines is defined in paragraph 2-4*c*.(3). To ascertain if twists are present in medium and large cargo parachute suspension lines, trace lines 1 and 64 (G-12C and G-12D) or lines 1, 120, 60, and 61 (G-11A) from the canopy skirt to the connector link assemblies. If the specified lines cannot be traced directly to the inside of the connector links as indicated in table 2-1, the suspension lines are twisted. Remove a twist from the suspension lines (fig. 2-10) by rotating the suspension risers between the suspension line oups in a direction opposite to that of the st.

c. G-12C and G-12D 64-Foot-Diameter Canopy Layout. Check a G-12C or G-12D 64-foot-diameter canopy assembly for proper layout by tracing suspension lines 1 and 64 from the canopy skirt to the inside of the top connector links and lines 32 and 33 from the canopy skirt to the inside of the bottom connector links. To complete a proper layout of a G-12C or G-12D canopy, arrange the risers, connector link assemblies, and suspension clevis as indicated in figure 2-11. Insure the suspension lines are attached to the connector links according to specifics in table 2-1.

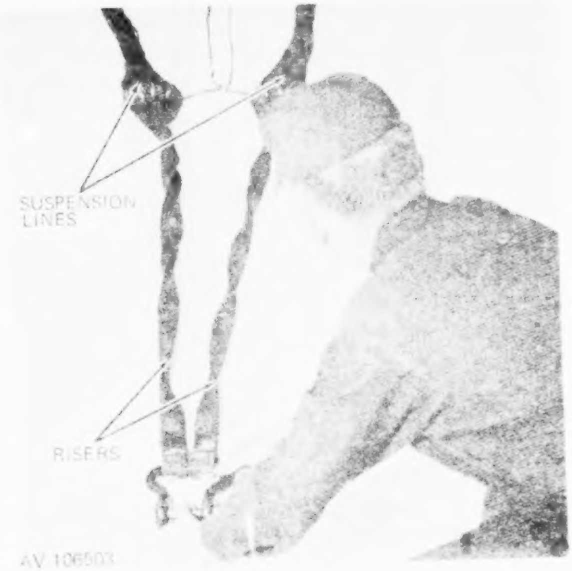


Figure 2–10. Removing twists from medium and large cargo parachute suspension lines, typical.

d. Tracing the G-11A Cargo Parachute Suspension Lines and Threading the Connector Link Assemblies. To trace the suspension lines and thread the connector link assemblies of the G-11A cargo parachute, three men shall be required to perform the following:

(1) One man grasps the suspension risers at a point just below the connector link assemblies and holds the suspension lines taut. A second man positioned at the canopy skirt, begins with line 1 and picks up the first line in each line group. As each line is picked up, it will be held in such a manner as to allow the line to be visually traced to the respective connector link assembly.

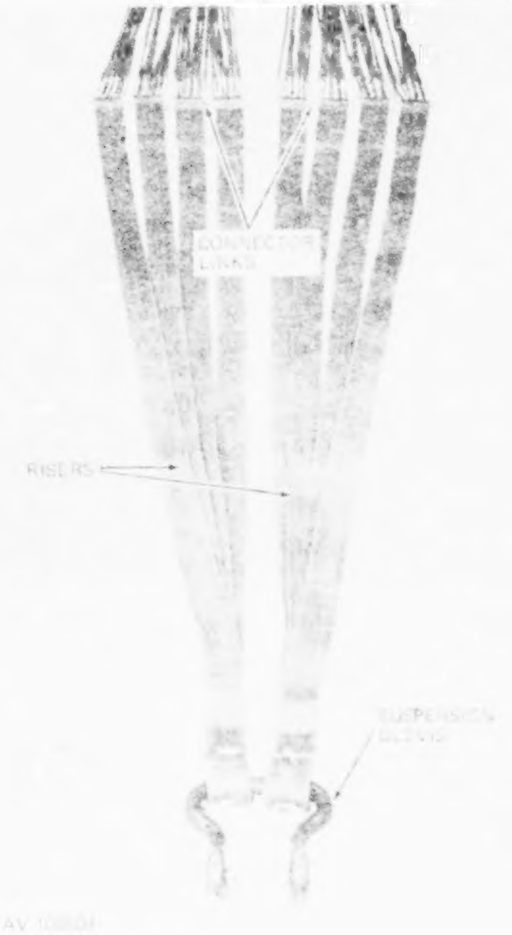


Figure 2-11. Risers, connector links, and suspension clevis in proper layout, typical, G-12C and G-12D 64-foot-diameter cargo parachutes.

(2) After tracing the first line of each line group, the first man passes the respective connector link assembly containing the line to another man who threads a nylon webbing strap through the connector link assembly (fig. 2-12). As the strap is being threaded through the connector link assembly, the man positioned at the canopy skirt grasps all suspension lines which are attached to the connector link assembly and throws the line group over his shoulder. This

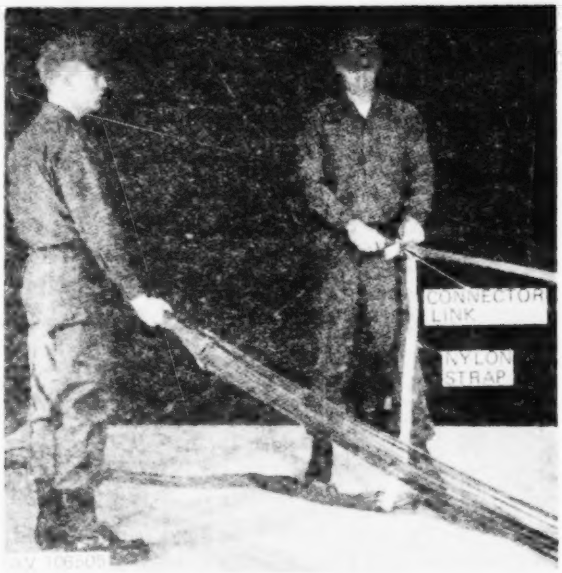


Figure 2-12. Threading link assemblies on a nylon strap, G-11A 100-foot-diameter cargo parachute.

procedure shall be repeated for each succeeding line group. Insure the connector link assemblies are threaded on the strap in a manner which positions the odd numbered suspension lines on the same side of the strap.

(3) Secure the nylon webbing strap with a strap fastener and form a loop in the strap. The loop shall be used as an attaching point for applying tension in addition to preventing the connector link assemblies from becoming disarranged.

e. Laying Out G-11A Cargo Parachute Suspension Risers. Adapting procedures in paragraph *b.* above, remove all turns, tangles, and twists from the suspension risers. Arrange the three suspension clevis attaching loops at the ends of the suspension risers in order and using pressure-sensitive adhesive tape, secure the risers together at a point immediately above the attaching loops.

f. Separating G-11A Cargo Parachute Suspension Lines Into Two Groups.

(1) Beginning with the connector link assembly to which suspension line 1 is attached, count six connector link assemblies.

(2) Grasp all suspension lines attached to the six connector link assemblies and working to the canopy skirt, separate these lines from the remaining suspension lines.

(3) Position a large suspension line separator between the two groups of lines at the canopy skirt to maintain group separation.

g. Dressing the Upper Lateral Band on Medium and Large Cargo Parachute Canopies. Dress the upper lateral band on medium and large cargo parachutes to center the vent lines prior to applying tension.

Section II. THE 12- AND 26-FOOT-DIAMETER HIGH-VELOCITY CARGO PARACHUTES

2–6. General

The 12- and 26-foot-diameter high-velocity cargo parachutes may be packed for use with either a nonbreakaway or breakaway static line, as required.

2–7. Folding the Canopy Gores

a. Flatfold.

(1) Apply tension to the canopy assembly.

(2) Pick up the right group of suspension lines with the left hand and using the right hand to hold the top center gore in position, flip the right group of gores over the left group of gores (fig. 2-13).

(3) Beginning with line 8 (12-foot canopy) or line 14 (26-foot canopy), fold the right group of gores (fig. 2-14).

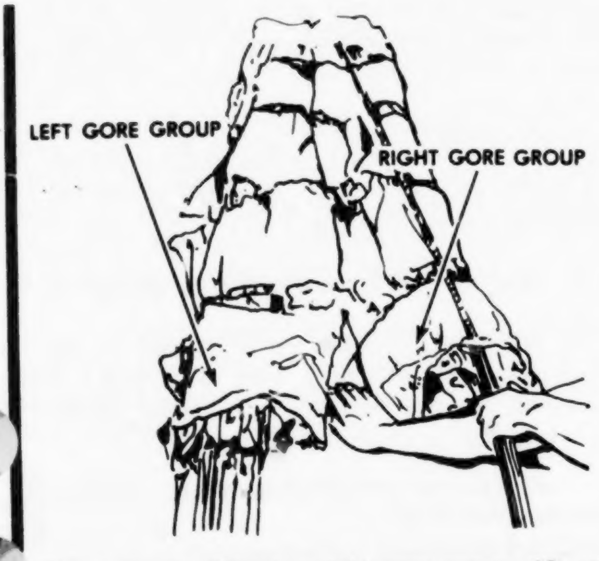


Figure 2—13. Flipping right gore group, 12- and 26-foot-diameter high-velocity cargo parachutes.

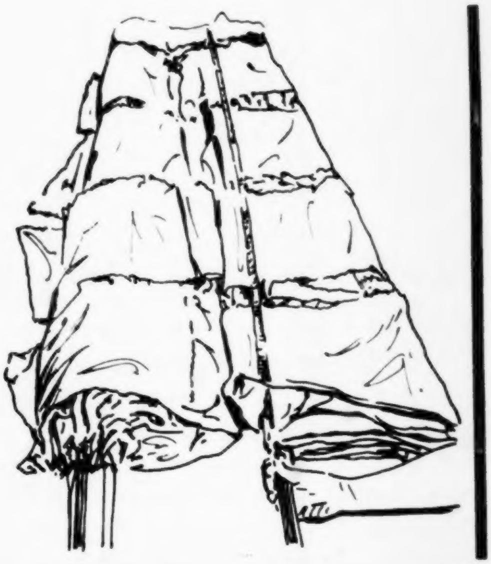


Figure 2—14. Right gore group folding completed, 12- and 26-foot-diameter high-velocity cargo parachutes.

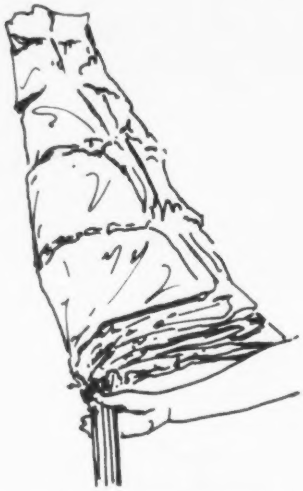


Figure 2—15. Left gore group folding completed, 12- and 26-foot-diameter high-velocity cargo parachutes.

(4) Using the right hand, scissor the right group of suspension lines between the middle and forefingers. Rotate the right hand one-quarter turn clockwise.

(5) Beginning with line 1, fold the left group of gores, not including the last two gores in the group.

(6) Raise the last suspension line of the left gore group and drape the last gore on the left. The next to the last gore shall be draped on the right. After draping the last two gores, place the last suspension line on top of the other lines in the left group (fig. 2-15).

(7) Insert the two suspension line groups into a line separator at a point just below the canopy skirt.

(8) Using the left hand, hold the line separator and the separated suspension lines. Grasp the canopy with the right hand and pull the canopy off the right side of the table allowing all folded gores to drape to the side of the table.

(9) Slide the canopy back onto the table and rotate the suspension lines and line separator one-half turn counterclockwise which will allow the separator base to rest on the table (fig. 2-16).

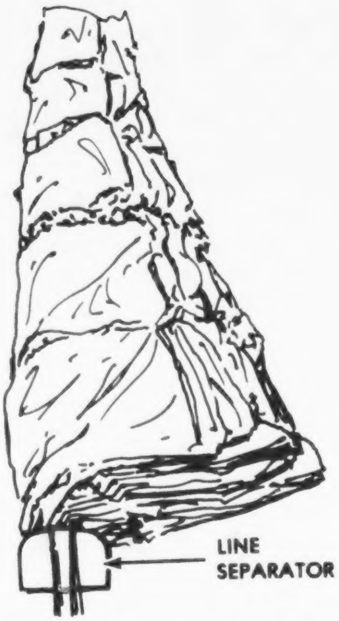


Figure 2—16. Gore group draping completed and line separator positioned, 12- and 26-foot-diameter high-velocity cargo parachutes.

(10) Flip the left group of gores to the left side of the table and apply additional tension.

(11) To complete the canopy flatfold, dress the gores and the skirt reinforcement (lower lateral band) (fig. 2-17). Insure the correct number of gores are in each gore group and that a clear channel exists between the two gore groups. Apply a packing weight on the suspension lines.

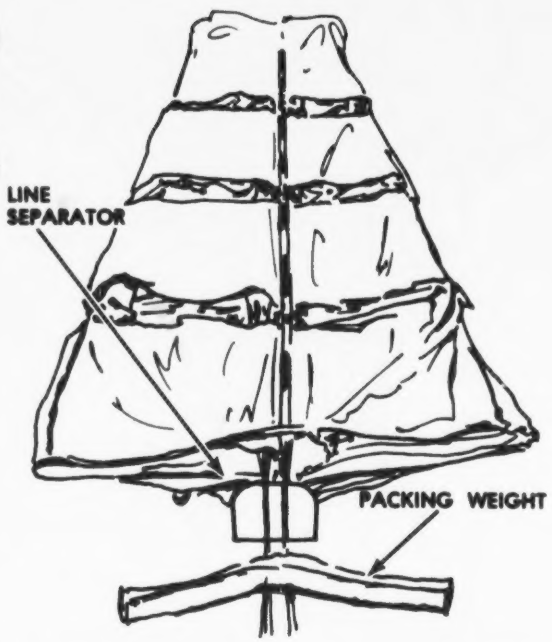
b. *Longfold.* Longfold the canopy to a width equal to the width of the deployment bag and apply packing weights, as required, to the folded canopy material (fig. 2-18).

2—8. Installing a Breakcord or Bag Retaining Tie

The canopy bridle loop is attached to the deployment bag attaching loop with either a breakcord or a bag retaining tie using the following procedures, as applicable:

a. Nonbreakaway Breakcord (26-Foot Diameter Parachute).

(1) Cut a 36-inch length of 1/4-inch-wide, type I cotton webbing and double the webbing length. This webbing length shall be used as a breakcord.



2—17. Canopy flatfold completed, 12- and 26-foot-diameter high-velocity cargo parachutes.

(2) Position the deployment bag attaching loop adjacent to the canopy bridle loop.

(3) Pass one end of the doubled webbing length through the bridle loop and draw the webbing through until the center of the webbing length is reached. Stretch the webbing taut.

(4) Working from opposite directions, pass each end of the doubled webbing length through the deployment bag attaching loop and pull the webbing ends until a 3-inch loop is formed in the webbing between the bridle loop and the bag attaching loop (fig. 2-19).

(5) Secure the webbing length ends over the deployment bag attaching loop with a surgeon's knot and a locking knot. Trim tie ends to 2 inches (fig. 2-20).

(6) Release tension.

a.1. Nonbreakaway Breakcord (12-Foot Diameter Parachute).

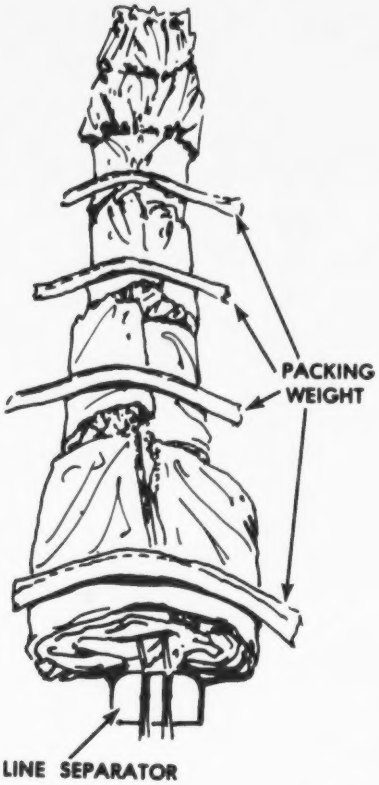
(1) Cut a 12-inch length of Ticket No. 5 cotton thread for use as a breakcord.

(2) Position the deployment bag attaching loop adjacent to the canopy bridle loop.

(3) Pass one end of the single thread breakcord through the canopy bridle loop and pull the thread through until the center of the thread length is reached. Pull the two ends of the centered breakcord thread taut.

(4) Working from opposite directions, pass each end of the single thread breakcord through the deployment bag attaching loop and pull the two ends taut (figure 2-20A).

(5) Secure the two ends of the breakcord over the deployment bag attaching loop with a surgeon's knot and a locking knot. Trim breakcord (figure 2-20B).



2—18. Canopy longfold completed, 12- and 26-foot-diameter high-velocity cargo parachutes.

b. Bag Retaining Tie.

(1) Cut a 30-inch length of 1/2-inch-wide tubular nylon webbing.

(2) Position the deployment bag attaching loop adjacent to the canopy bridle loop.

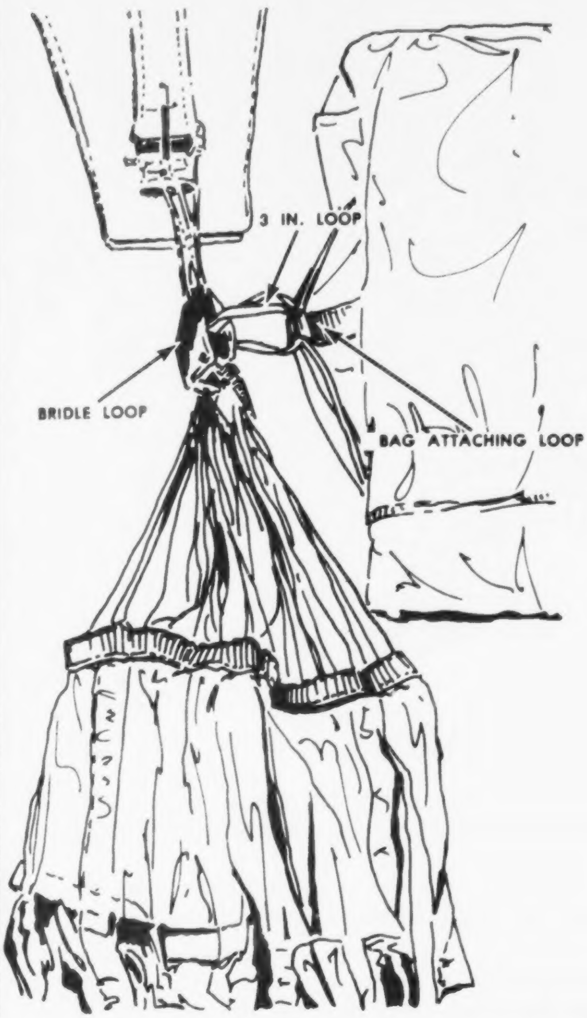


Figure 2—19. Nonbreakaway breakcord 3-inch loop formed, 26-foot-diameter high-velocity cargo parachutes.

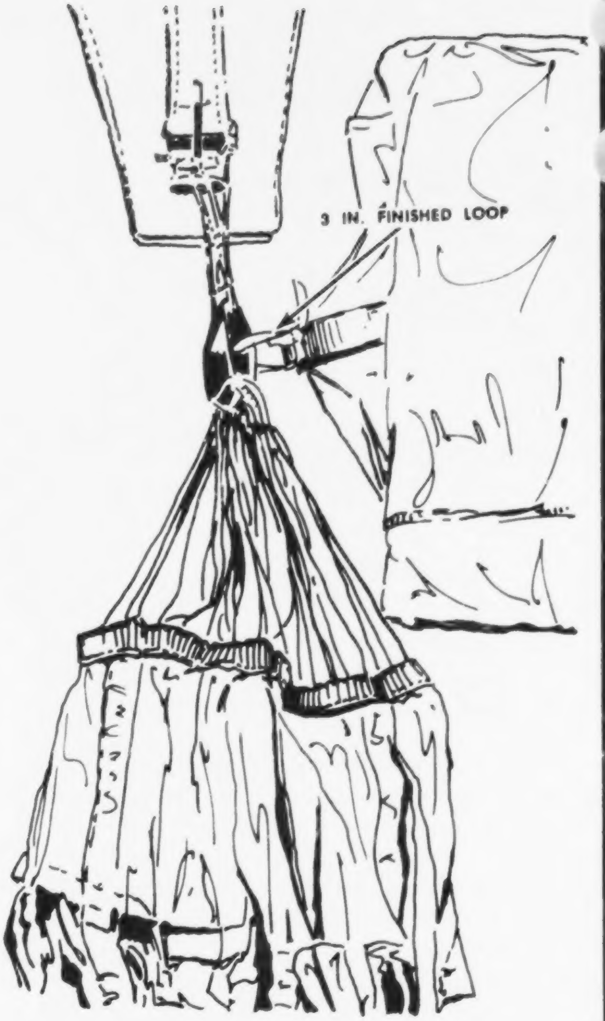


Figure 2—20. Nonbreakaway breakcord installation completed, 26-foot-diameter high-velocity cargo parachutes.

(3) Pass one end of the webbing length through the vent lines until the center of the webbing is reached.

(4) Using procedures in paragraph *a*.(4) above, form an 8-inch loop between the bridle loop and the bag attaching loop (fig. 2-21).

(5) Secure the webbing ends over the deployment bag attaching loop with a surgeon's knot and a locking knot. Make an overhand knot in each running end. Trim tie ends at a point 2 inches from the surgeon's knot and locking knot (fig. 2-22).

(6) Release tension.

2—9. Preparing the Deployment Bag for Packing

a. Position the deployment bag at the top of the canopy vent with the suspension line retaining straps facing up.

b. As required, attach rubber retainer bands at equally spaced intervals to the two lengths of suspension line retaining straps located on the bag top. Further attach four rubber retainer bands to the static line retaining strap located on the upper left corner of the bag and

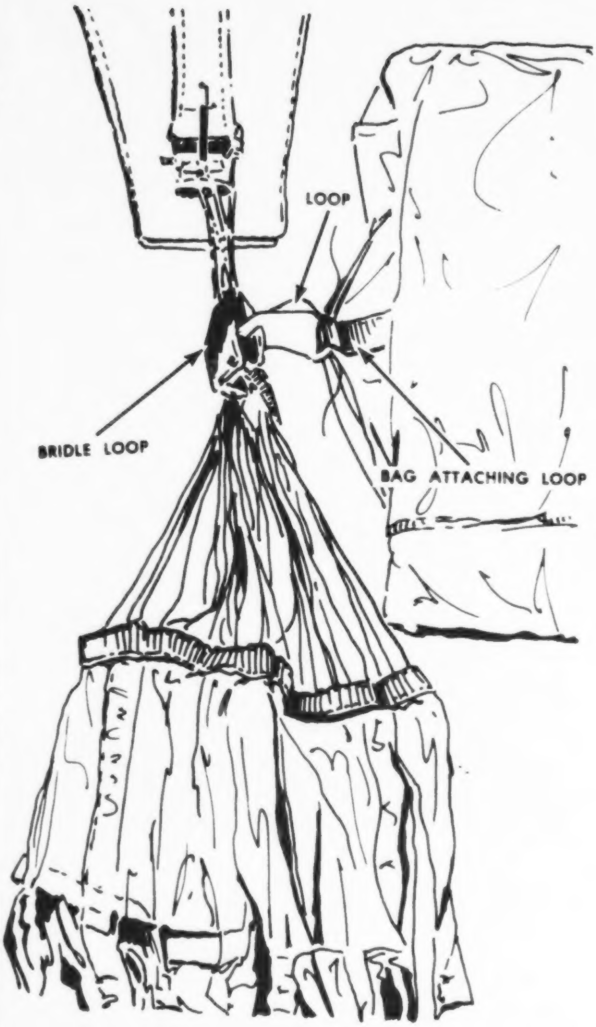

LOOP
BRIDLE LOOP
BAG ATTACHING LOOP

Figure 2—20A. Nonbreakaway breakcord, 12-foot diameter high-velocity cargo parachutes.

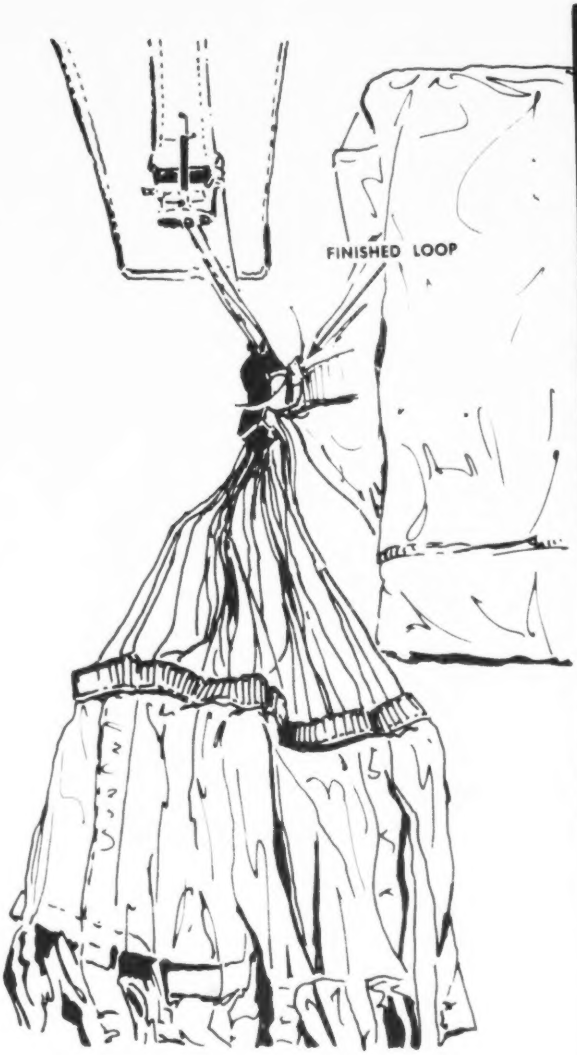

FINISHED LOOP

Figure 2—20B. Nonbreakaway breakcord installation completed, 21-foot diameter high-velocity cargo parachutes.

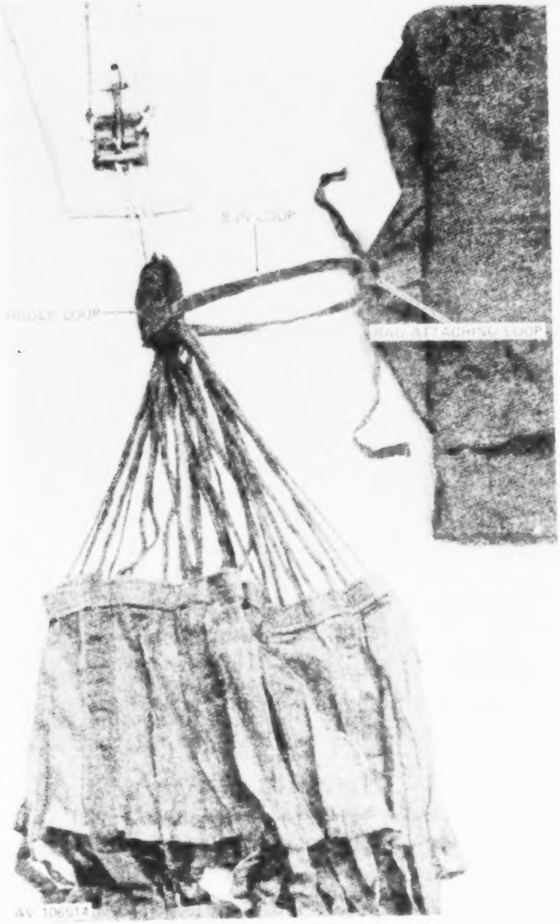


Figure 2–21. Bag retaining tie 8-inch loop formed, 12- and 26-foot-diameter high-velocity cargo parachutes.

three rubber retainer bands to the static line retaining strap located on the upper right of the bag.

2–10. Stowing the Canopy

a. Beginning at the upper right corner of the deployment bag, S-fold the canopy into the bag. Complete the canopy stowage with the suspension lines extending from the center of the bag open end (fig. 2-23).

b. Using a 24-inch length of 1/4-inch-wide, type I cotton webbing, make a one turn single bag closing tie by tieing the top and bottom center bag tie loops around the extended suspension lines (fig. 2-24). Secure the tie with a surgeon's knot and a locking knot (fig. 2-25). Trim tie ends to 2 inches.

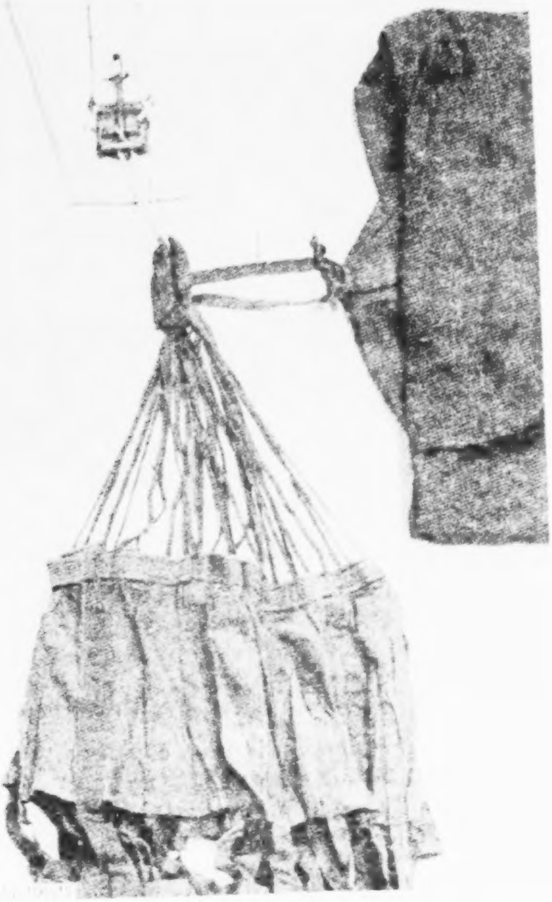


Figure 2–22. Bag retaining tie installation completed, 12- and 26-foot-diameter high-velocity cargo parachutes.

2–11. Stowing the Suspension Lines

a. Form and make the first suspension line stow at the upper right corner of the deployment bag. Secure the stow with a rubber retainer band.

b. Extend the suspension lines to the left side of the bag. Form and make the second suspension line stow at the upper left corner of

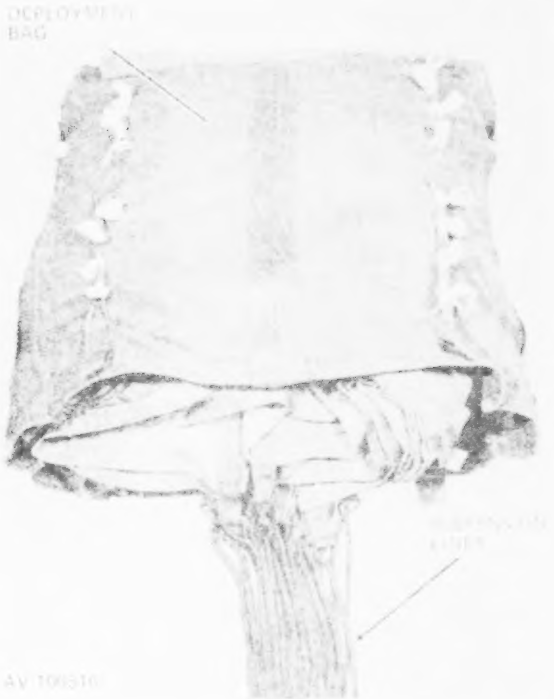


Figure 2–23. Canopy stowage completed, 12- and 26-foot-diameter high-velocity cargo parachutes.

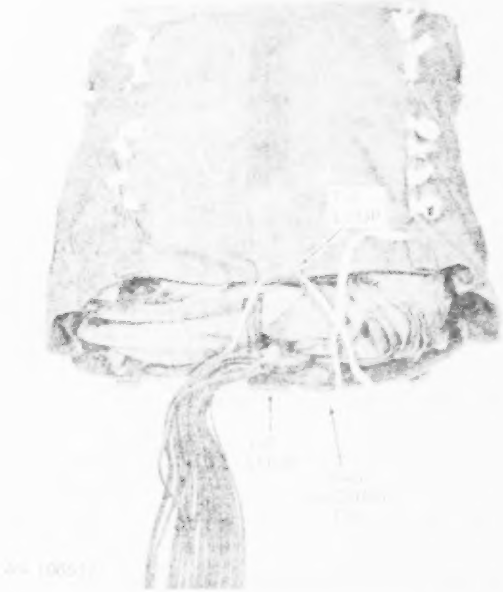


Figure 2–24. Installing the bag closing tie, 12- and 26-foot-diameter high-velocity cargo parachutes.

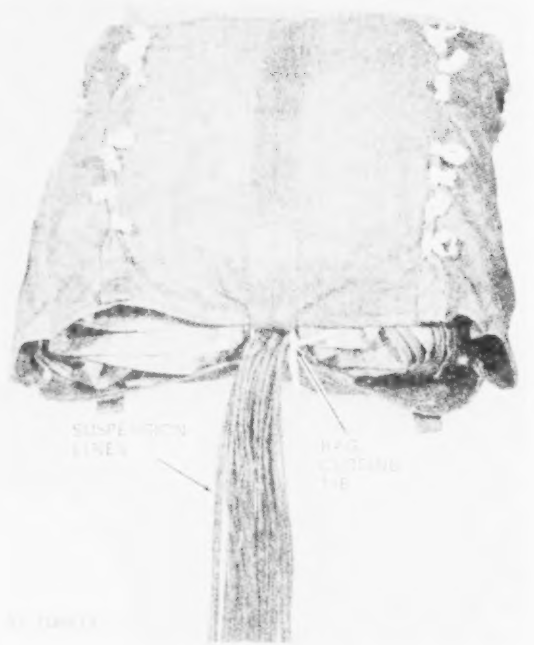


Figure 2–25. Bag closing tie completed, 12- and 26-foot-diameter high-velocity cargo parachutes.

the bag and simultaneously rotate the bag one-quarter turn clockwise. Secure the stow with a rubber retainer band (fig. 2-26). The width of the stows shall not exceed the width of the suspension line protector flap.

c. Working from right to left and moving the bag toward the tension plate, stow the remaining suspension lines according to procedures in *a.* and *b.* above, making the last stow at a point 5 inches from the riser connector loops (fig. 2-27).

2–12. Making Riser Securing Ties

a. Position the riser connector loops at a point immediately below the bag open end.

b. Cut two 18-inch lengths of 1/4-inch-wide, type I cotton webbing for use as tie material.

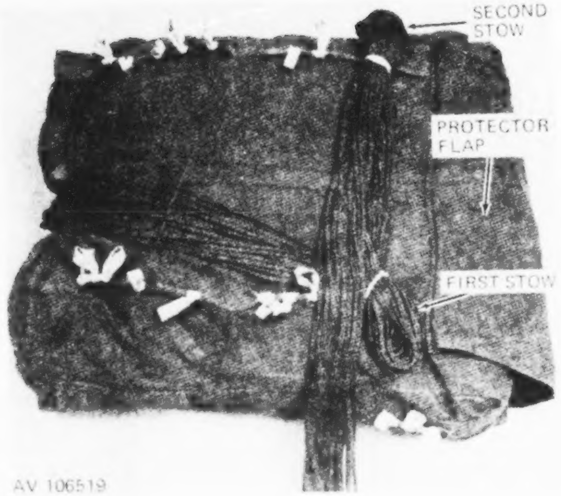


Figure 2–26. First and second suspension line stows completed, 12- and 26-foot-diameter high-velocity cargo parachutes.

c. Working in a counterclockwise direction, thread one 18-inch webbing length through the left bottom bag tie loop, through the left riser connector loop, and through the left top bag tie loop.

d. Using the second 18-inch webbing length, repeat the procedure in *c.* above on the right side of the deployment bag (fig. 2-28).

e. Secure each tie installed in *c.* and *d.* above with a surgeon's knot and a locking knot (fig. 2-29). Insure the knots are located to the outside of the bag tie loops.

f. Close the suspension line protector flap over the stowed suspension lines.

g. Pass one running end of the left riser securing tie through the protector flap left tie loop and secure the riser securing tie running ends with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

h. Secure the protector flap right tie loop (fig. 2-30) using procedures in *g.* above.

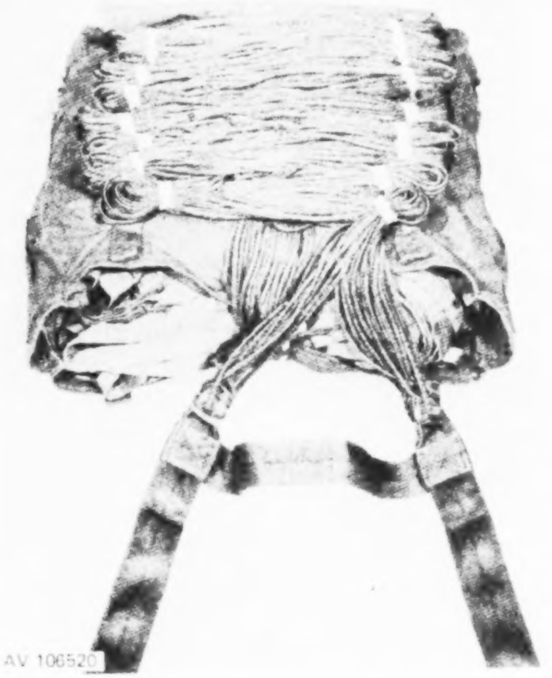


Figure 2–27. Suspension line stowage completed, 12- and 26-foot-diameter high-velocity cargo parachutes.

2–13. Attaching the Static Line

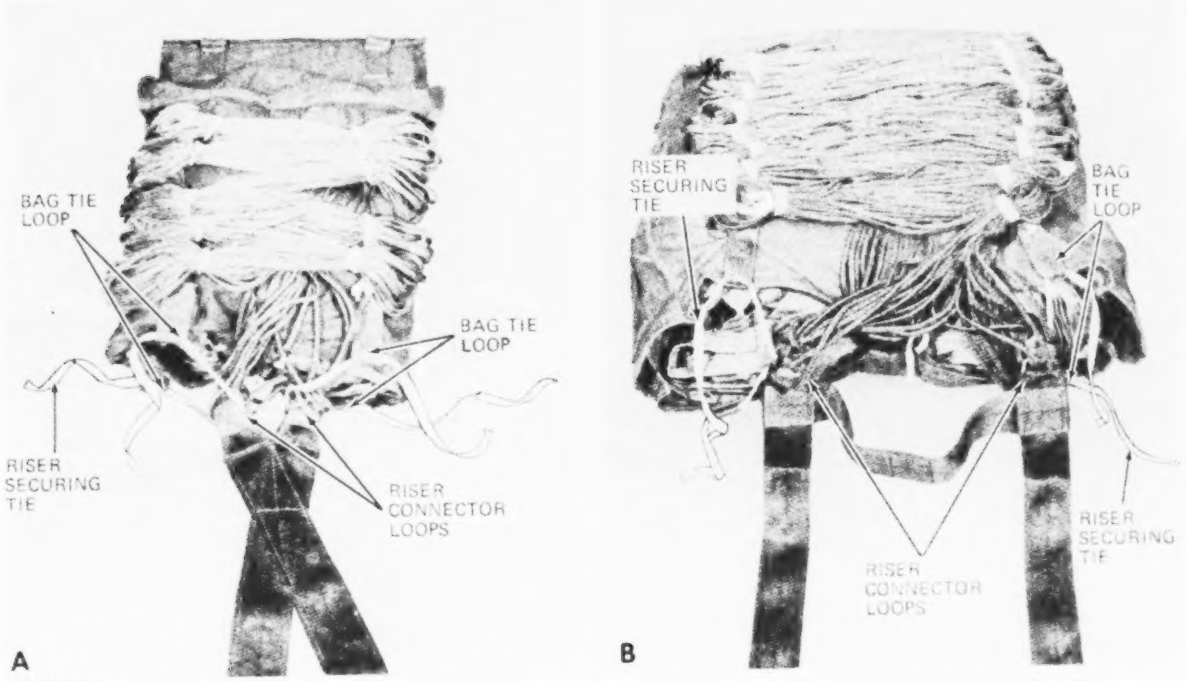
a. Nonbreakaway Static Line.

(1) If applicable, remove the riser clevis from the small loop on the 15-foot-long static line.

(2) Pass the large loop located on one end of the static line through the deployment bag main strap attaching loop(s).

(3) Pass the opposite end of the static line through the large loop (fig. 2-31) and draw the formed loop tight against the main strap attaching loop(s).

(4) Reattach the riser clevis to the small loop on the static line running end and secure the clevis with the attached clevis pin and safety pin.



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A. 12-foot-diameter high velocity cargo parachute. *B. 26-foot-diameter high velocity cargo parachute.*

Figure 2–28. Riser securing tie material positioned.

b. Breakaway Static Line.

(1) Attach the 15-foot-long static line to the deployment bag using procedures in *a.*(1) through (3) above.

(2) Using a 2 1/2-inch length of 1-inch-wide pressure-sensitive tape, make 1 1/2 turns through the static line small loop and around the small loop end.

(3) Cut an 18-inch length of type III nylon cord and remove core threads.

(4) Pass one end of the cord length through the static line small loop and pass the opposite end of the cord length through the riser clevis body. Join the cord ends to form a 4-inch-long loop. Secure the cord ends with a surgeon's knot and a locking knot. Make an overhand knot in each tie running end (fig. 2-32). Trim tie ends at a point 2 inches from the surgeon's knot and locking knot.

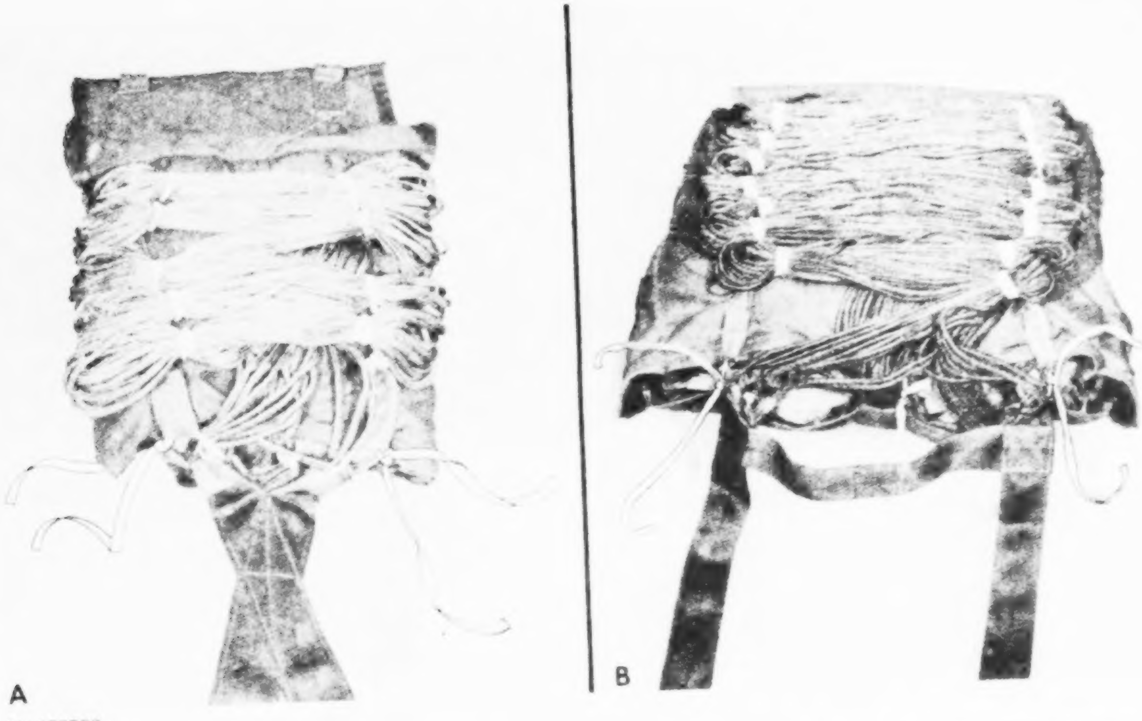
2–14. Completing the Pack

a. The 12-Foot-Diameter High-Velocity Cargo Parachute.

(1) Remove the Army Parachute Log Record (DA Form 10-42 or 3912) from the inspection data pocket (log record pocket) and record the pack as prescribed by TM 10-1670-201-23/TO 13C-1-41. Reinsert the record into the pocket.

(2) Extend the risers over the bag to the upper edge of the bag and make a foldback in the risers which will allow the riser clevises to be positioned at the bag open end.

(3) S-fold the static line length and make the length of the folds equal to the length of the bag. Secure the S-folds with a rubber retainer band on one end and place the folded static line between the folded risers.



A. 12-foot-diameter high-velocity cargo parachute.

B. 26-foot-diameter high-velocity cargo parachute.

Figure 2–29. Riser securing ties completed.

(4) Using a 36-inch length of 1/4-inch-wide, type I cotton webbing, pass one end around the deployment bag and secure the stowed risers and static line by making a surgeon's knot and a locking knot in the webbing length ends (fig. 2-33). Trim tie ends, as required.

b. The 26-Foot-Diameter High-Velocity Cargo Parachute.

(1) Stow the static line by forming the first stow at the upper left corner of the bag and secure the stow with a rubber retainer band attached to the static line retaining strap. Make the first stow and each succeeding stow to extend 2 inches beyond the outer edge of the static line retaining straps.

(2) Form the second static line stow at the upper right corner of the bag and secure the stow as outlined in (1) above. Continue stowing the remaining static line length from left to right alternately until the line is completely stowed and secured (fig. 2-34).

(3) Remove the nut and screw from a 3/4-inch suspension clevis and pass one end of the clevis body through each of the clevis attaching loops located on the end of each of the two risers. Reinstall the screw and nut on the clevis.

(4) Remove the Army Parachute Log Record (DA Form 10-42 or 3912) from the inspection data pocket (log record pocket), record the pack as prescribed in TM 10-1670-201-23/TO 13C-1-41, and reinsert the record into the pocket.

(5) Extend the risers and clevis across the stowed static line toward the upper end of the deployment bag and fold the clevis back against the extended risers.

(6) Using an 18-inch length of 1/4-inch-wide, type I cotton webbing, make a temporary tie to secure the clevis body to the deployment bag main strap attaching loop. At a point near the clevis screw, make a second temporary tie using the same tie material to secure the clevis body to the two risers (fig. 2-35).

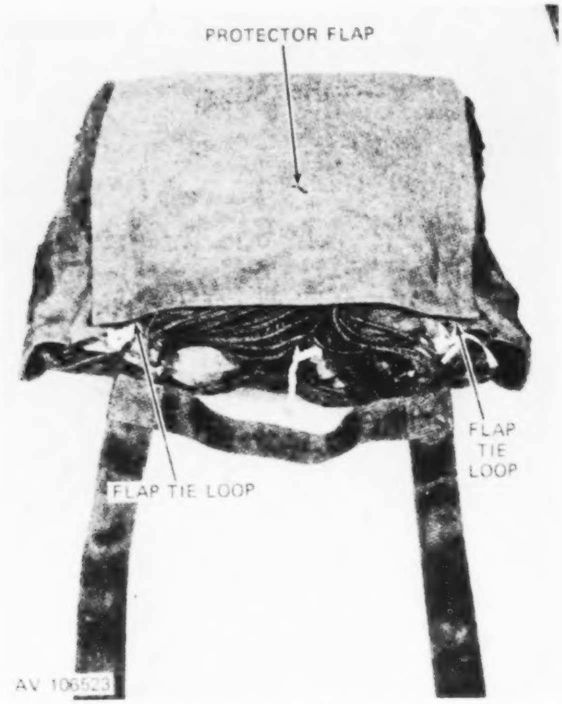
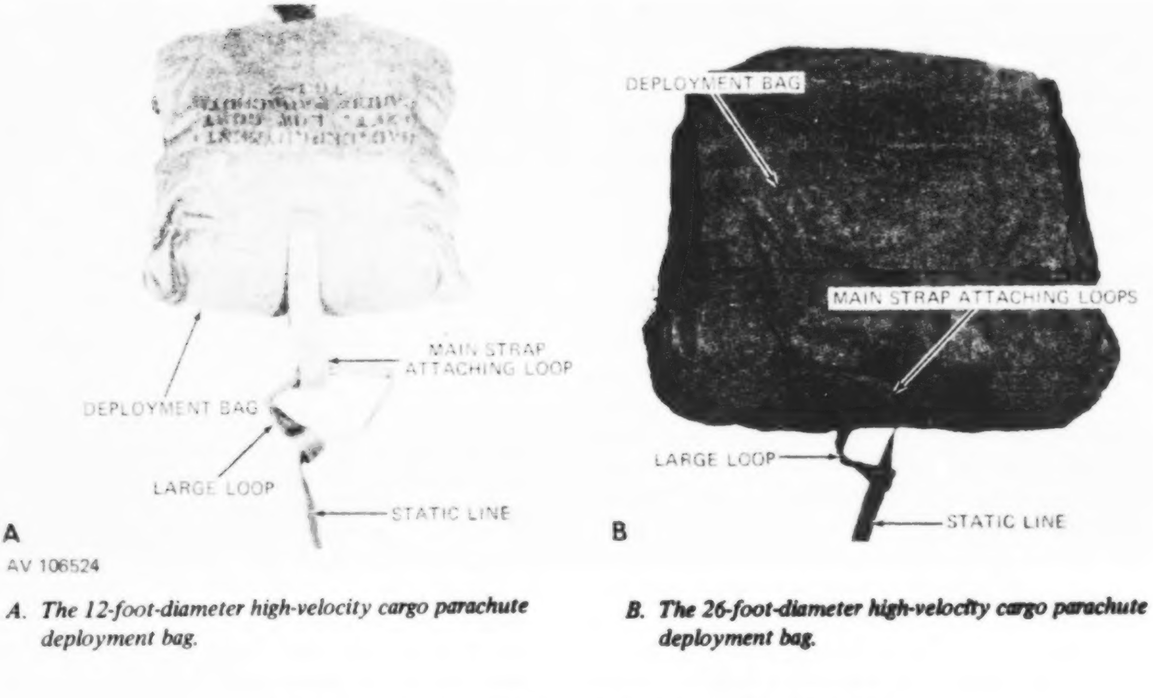

PROTECTOR FLAP
FLAP TIE LOOP
FLAP TIE LOOP
AV 106523

Figure 2–30. Suspension line protector flap closed and secured, 12- and 26-foot-diameter high-velocity cargo parachutes.


DEPLOYMENT BAG
MAIN STRAP ATTACHING LOOP
LARGE LOOP
STATIC LINE
A
AV 106524
DEPLOYMENT BAG
MAIN STRAP ATTACHING LOOPS
LARGE LOOP
STATIC LINE
B

A. The 12-foot-diameter high-velocity cargo parachute deployment bag.

B. The 26-foot-diameter high-velocity cargo parachute deployment bag.

Figure 2–31. Attaching static line to deployment bag.

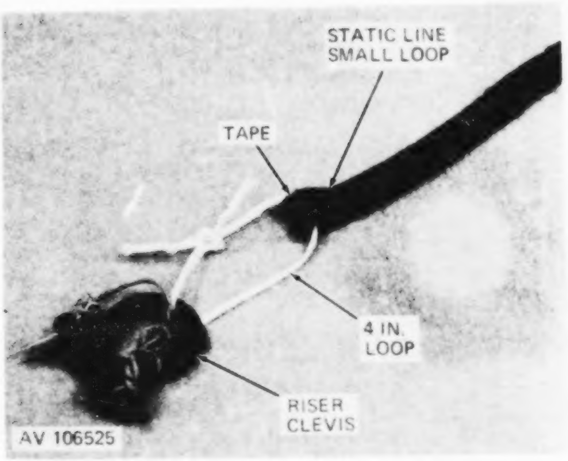

STATIC LINE SMALL LOOP
TAPE
4 IN. LOOP
RISER CLEVIS
AV 106525

Figure 2–32. Breakaway tie completed on static line, 12- and 26-foot-diameter high-velocity cargo parachutes.

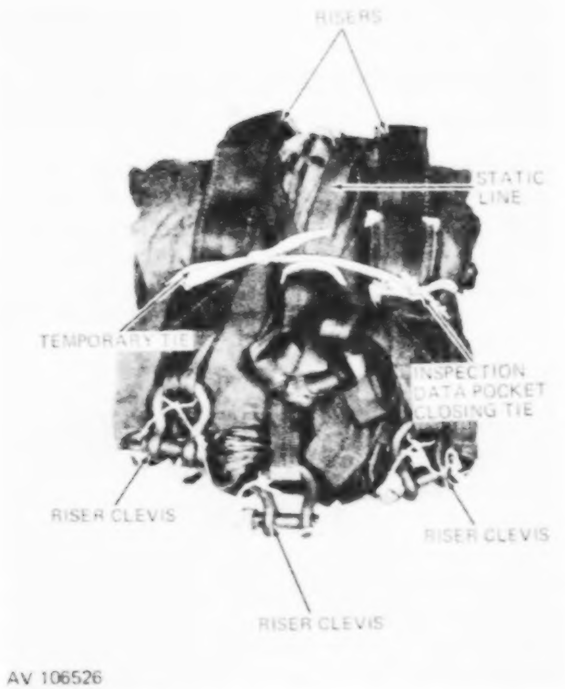

RISERS
STATIC LINE
TEMPORARY TIE
INSPECTION DATA POCKET CLOSING TIE
RISER CLEVIS
RISER CLEVIS
RISER CLEVIS
AV 106526

Figure 2–33. The 12-foot-diameter high-velocity cargo parachute pack completed

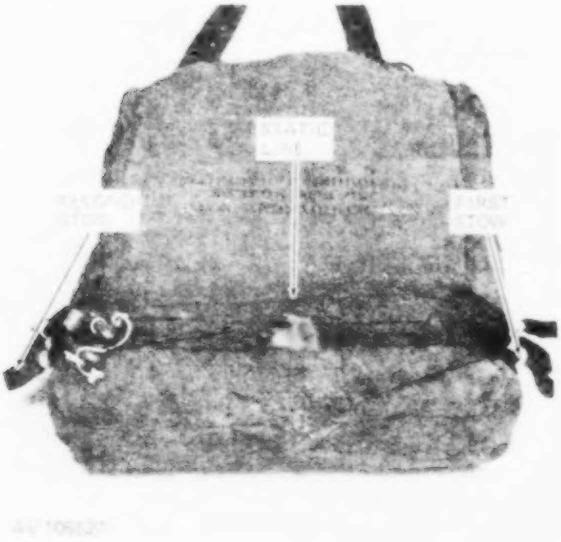


Figure 2-34. The 26-foot-diameter high-velocity cargo parachute static line stowed and secured.

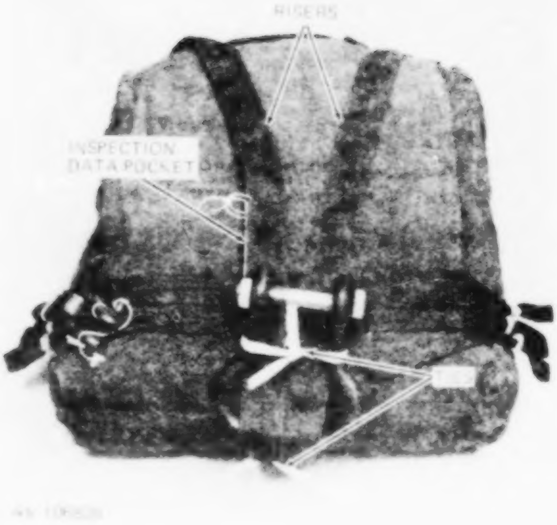


Figure 2-35. The 26-foot-diameter high velocity cargo parachute pack completed.

Section III. THE G-13 24-FOOT-DIAMETER CARGO PARACHUTE

2-15. General

During packing of the G-13 24-foot-diameter cargo parachute canopy it should be noted that the skirt hesitator loop location varies. On some G-13 cargo parachute canopy assemblies, the skirt hesitator loop is located on radial seam 10, while on other assemblies the loop may be found on radial seam 11. Regardless of the loop location, the packing procedures remain basically the same, unless otherwise annotated within a specific procedure.

2-16. Folding the Canopy Gores

a. Apply tension to the canopy assembly.

b. Pick up the right group of suspension lines (lines 11 through 20) with the left hand, and while holding the top center gore in position with the right hand (fig. 2-36), flip the right group of gores over the left group of gores.

c. Using the right hand, pick up line 11 at the canopy skirt and place the line between the thumb and forefinger of the right hand.

d. Move line 11 to the right table edge and using the thumb and forefinger of the left hand, raise line 12 to expose the gore between lines 11 and 12.

e. Move line 12 to the right table edge in a manner which allows the gore between lines 11 and 12 to fold neatly and drape over the right edge of the table. Place line 12 in the right hand on top of line 11.

f. Repeat procedures *c.* through *e.* above for each succeeding line in the right group (fig. 2-37).

g. Scissor the right suspension line group between the middle finger and forefinger of the right hand. Rotate the right hand one-quarter turn clockwise.

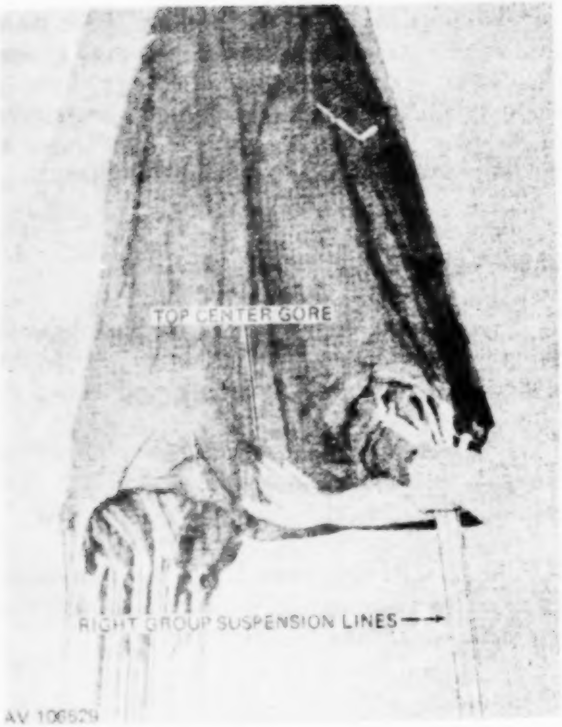


Figure 2–36. Preparing to flip right gore group, G-13 24-foot-diameter cargo parachute.

h. Using the left hand, raise line 1 to expose the top center gore.

i. Bring the left hand down to the right, allowing the top center gore to fold over the right gore group. Place line 1 between the right hand thumb and forefinger.

j. Repeat procedures *h.* and *i.* above for succeeding lines 2 through 9.

k. Using the left hand, grasp the canopy skirt reinforcement tape (lower lateral band) at a point 6 inches to the right of line 10. Insert the left elbow under line 10 and gore 10. Lower the left arm and allow gore 9 to fold to the right and gore 10 to fold to the left of the folded gores (fig. 2-38).

l. Insert the two suspension line groups into a line separator.

m. Holding the line separator and the two suspension line groups with the left hand, grasp the canopy with the right hand and pull the canopy off the right side of the table, allowing all folded gores to drape to the right side of the table.

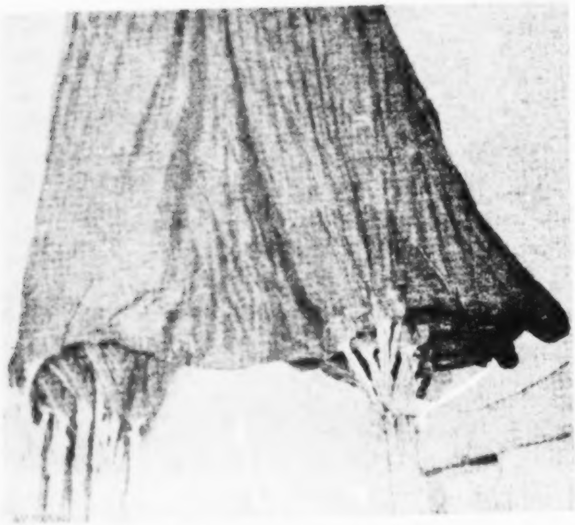


Figure 2–37. Right gore group folding completed, G-13 24-foot-diameter cargo parachute.

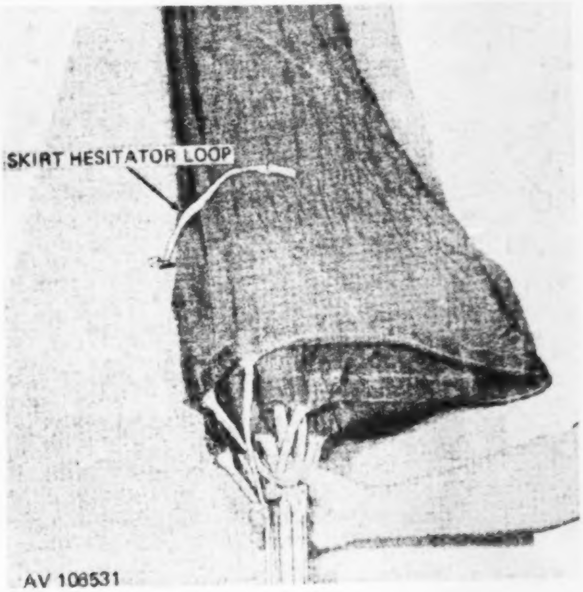


Figure 2–38. Left gore group folding completed, G-13 24-foot-diameter cargo parachute.

n. Check radial seams 10 and 11 to ascertain the location of the skirt hesitator loop. If the loop is located on radial seam 11, expose the loop by repositioning the bottom center gore from the right gore group to the left gore group.

o. Slide the canopy back onto the table and rotate the suspension lines and line separator one-half turn counterclockwise which will permit the separator base to rest on the table (fig. 2-39).

p. Flip the left gore group to the left side of the table. If the skirt hesitator loop is located on radial seam 11, position gore 20 in the right gore group to balance the gore layout (fig. 2-40). Place a packing weight over the suspension lines and apply additional tension.

q. Dress the gores and the skirt reinforcement tape (lower lateral band). Insure that 10 gores are in each gore group.

r. Lift the top radial line and insure there is a clear channel between the two gore groups (fig. 2-41). If the channel is not clear, pull gently along the folded edges of the gores to remove fabric from the channel. Repeat procedures *a.* through *q.* above if unable to clear the channel.

2–17. Tieing the Skirt Hesitator Loop

a. Release tension from the canopy and remove the suspension line loops from the tension plate.

b. Grasp both suspension line groups at a point 18 inches below the canopy skirt and fold the lines back onto the canopy.

c. Locate the ends of the skirt hesitator loop and extend each end up and around the respective side of the canopy.

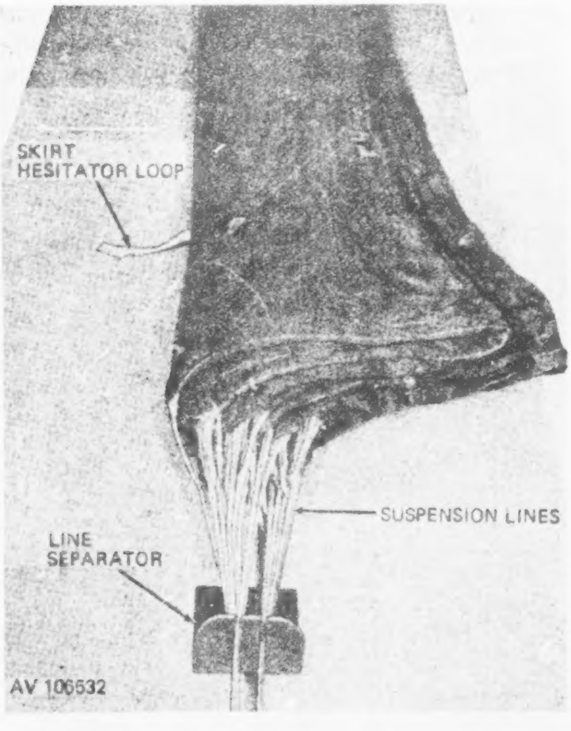


Figure 2–39. Gore group draping completed and line separator positioned, G-13 24-foot-diameter cargo parachute.

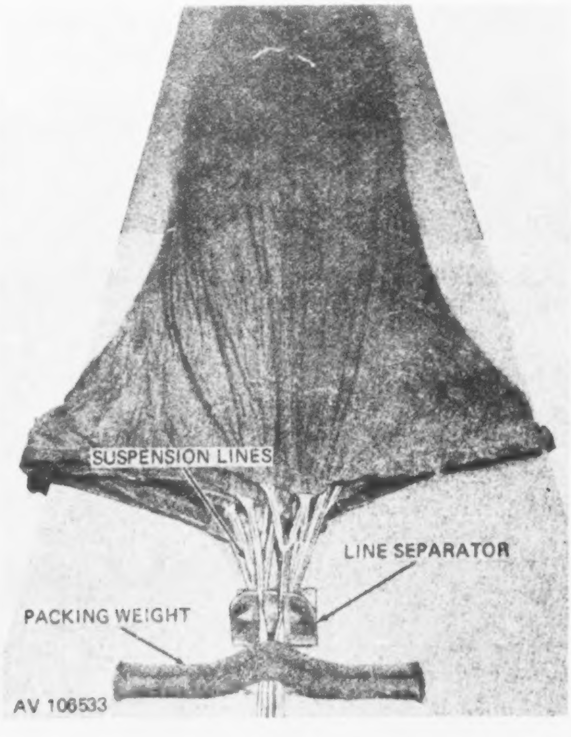


Figure 2–40. Canopy gore groups separated, G-13 24-foot-diameter cargo parachute.

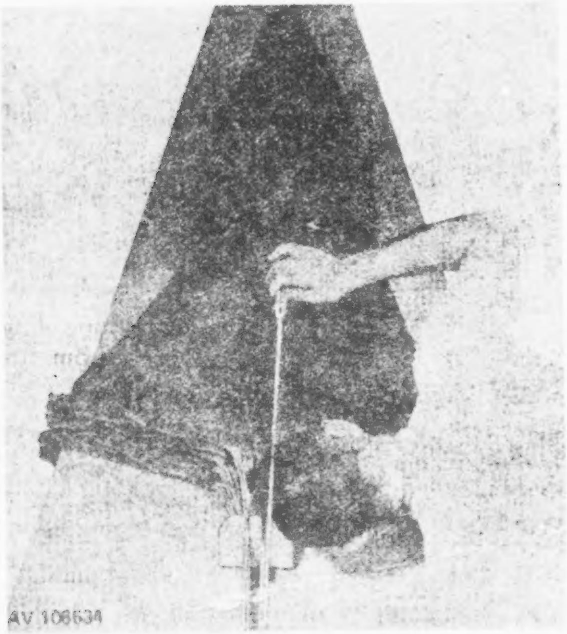


Figure 2–41. Checking channel between the two gore groups, G-13 24-foot-diameter cargo parachute.

d. Cut a 24-inch length of 1/4-inch-wide, type I cotton webbing for use in making a skirt hesitator tie.

e. Thread one end of the webbing length through the left loop of the skirt hesitator from the direction of the canopy vent, through the loop formed by the folded suspension lines, through the right loop of the skirt hesitator from the direction of the canopy skirt, and pull the webbing ends tight (fig. 2-42).

f. Secure the webbing ends with a surgeon's knot and a locking knot (fig. 2-43). Trim tie ends to 2 inches.

2–18. Stowing Suspension Lines

a. Position the parachute pack on the table at a point adjacent to the suspension line connector loops and roll the pack sides down to aid in stowing of the suspension lines.

b. To secure the suspension line stows, install rubber retainer bands, as required, at equal intervals along the left and right suspension line retaining straps on the inside bottom of the pack.

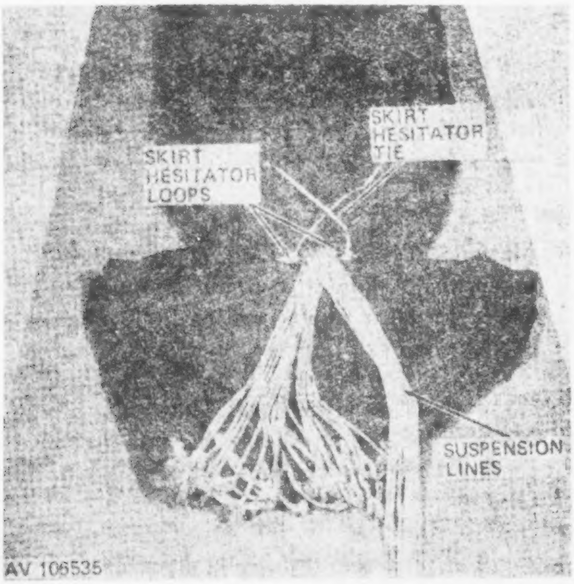


Figure 2–42. Installing the skirt hesitator loop tie, G-13 24-foot-diameter cargo parachute.

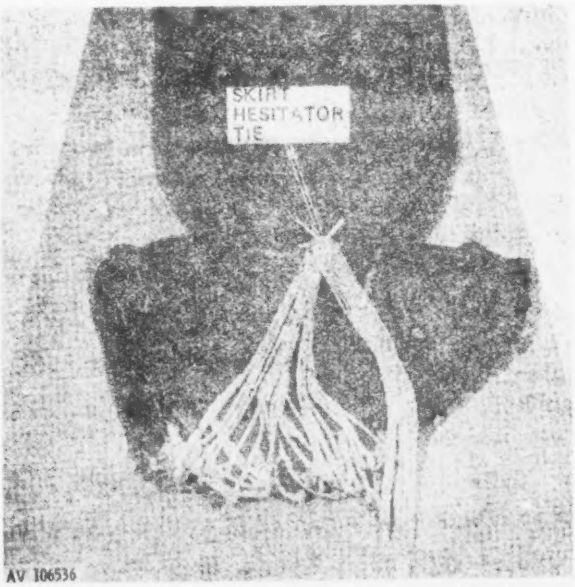


Figure 2-43. Skirt hesitator tie completed, G-13 24-foot-diameter cargo parachute.

c. Position the risers, spreader, and the suspension line loops on the lower edge of the pack bottom.

d. Form and secure the first suspension line stow at the lower right corner of the pack.

e. While holding the first stow in position on the pack, rotate the pack one-quarter turn counterclockwise.

f. Form and secure the second suspension line stow at the lower left corner of the pack, making the stows the same width as the inside bottom of the pack (fig. 2-44).

g. Continue stowing the suspension lines alternately from right to left until the lines are stowed to within 12 to 14 inches of the canopy skirt.

h. Rotate the pack one-quarter turn clockwise (fig. 2-45).

2–19. Stowing the Canopy

a. Remove the bridle line loop from the vent attaching hook.

b. Holding the pack firmly in position with the left hand, grasp the canopy skirt with the right hand and place the canopy over the stowed suspension lines. Aline the canopy skirt with the lower edge of the pack inside bottom (fig. 2-46).

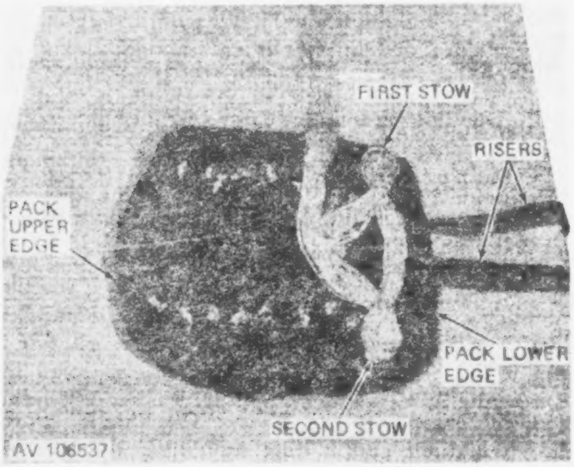


Figure 2–44. First and second suspension line stows formed and secured, G-13 24-foot-diameter cargo parachute.

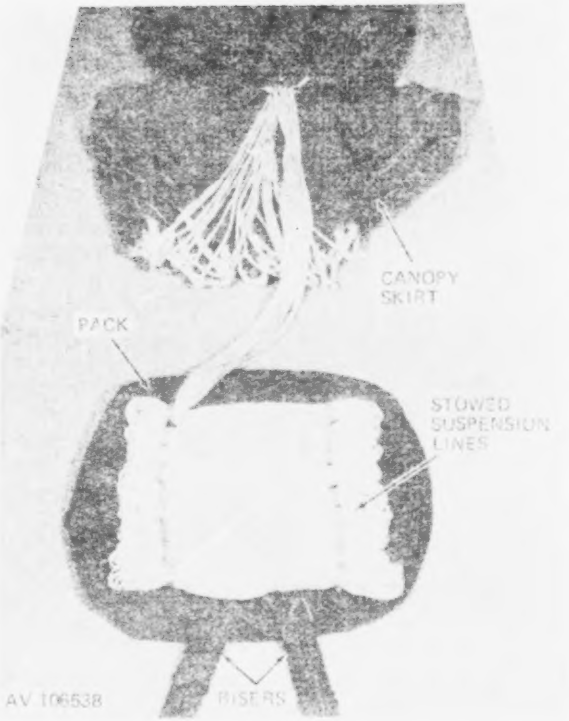


Figure 2–45. Suspension line stowage completed and pack rotated, G-13 24-foot-diameter cargo parachute.

c. Place the left hand on the canopy at the upper pack edge and place the right hand under the canopy at a point 15 inches from the left hand. Make one accordion fold of the canopy onto the pack.

d. Using the procedure in *c.* above, continue accordion-folding the canopy until the canopy crown is centered on top of the folded canopy.

e. Position the bridle lines on top of the canopy crown and unroll the pack sides to the top of the folded canopy (fig. 2-47). Insure the left riser extends from the pack lower left corner and the right riser extends from the pack lower right corner.

CANOPY SKIRT
RISERS
PACK
PACK LOWER EDGE
AV 106539

Figure 2–46. Canopy skirt positioned on pack, G-13 24-foot-diameter cargo parachute.

2–20. Attaching a Nonbreakaway Static Line and the Drogue

a. Static Line.

(1) Cut a 12-inch length of type III nylon cord and remove the core threads.

(2) Position the static line breakcord attaching loop on top of the canopy crown at a point adjacent to the bridle line loop.

(3) Pass one end of the cord length through the bridle line loop and center the cord length in the loop.

(4) Pass each end of the cord length through the static line breakcord attaching loop from opposite directions (fig. 2-48) and draw the cord ends tight. Secure the cord ends together with a surgeon's knot and a locking knot (fig. 2-49). Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

b. Drogue. A drogue (fig. 1-4) may be attached during packing or after packing has been completed using the following procedures, as applicable.

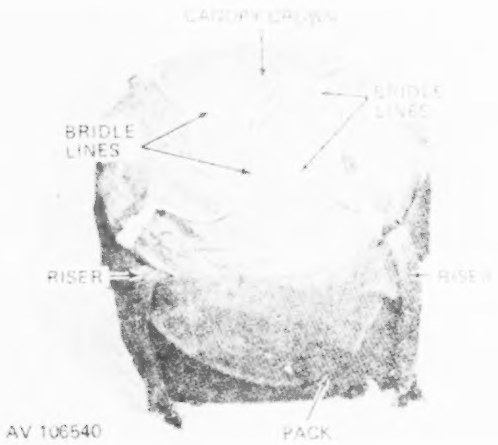


Figure 2–47. Canopy stowage completed and bridle lines positioned, G-13 24-foot-diameter cargo parachute.

(1) *During packing.*

(a) After the static line is attached to the bridle line loop, pass 3 to 4 inches of the drogue attaching loop through the static line breakcord attaching loop.

(b) Pass the drogue body through the extended drogue attaching loop end and draw the drogue attaching loop tight.

(c) Stow the drogue body on top of the canopy crown (fig. 2-50) and insure the drogue does not become entangled in the bridle lines.

(2) *After packing completed.*

(a) Pull the pack flaps as far apart as possible without cutting the pack closing tie and locate the static line breakcord attaching loop.

(b) Attach and stow the drogue using procedures in (1) above.

2–21. Attaching a Breakaway Static Line

a. Cut a 30-inch length of 1/2-inch-wide tubular nylon webbing.

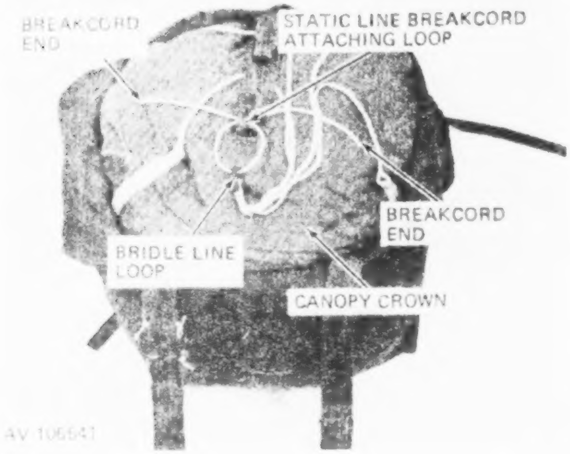


Figure 2–48. Installing breakcord tie on non-breakaway static line, G-13 24-foot-diameter cargo parachute.

b. Position the static line breakcord attaching loop on top of the canopy crown at a point adjacent to the upper edge of the pack. Further position the bridle line loop at a point adjacent to the lower edge of the pack.

c. Attach the static line breakcord attaching loop to the bridle line loop with one turn single of the cord length. Form an 8-inch loop in the cord length between the two attaching loops (fig. 2-51).

CAUTION

The method of attaching a breakaway static line as shown in figure 2-58A is not to be used for helicopter drops.

d. Secure the cord ends over the static line breakcord attaching loop (fig. 2-52) with a surgeon's knot and a locking knot. Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

2–22. Closing the Pack

a. Fold the bridle lines and bridle line loop with the 10-inch-long static line attaching cord, if applicable, inside the pack.

b. Fold the pack closing flaps over the stowed canopy and install rubber retainer bands on the static line retaining straps at the upper and lower ends of the pack.

Figure 2–49. Nonbreakaway static line breakcord installed, G-13 24-foot-diameter cargo parachute.

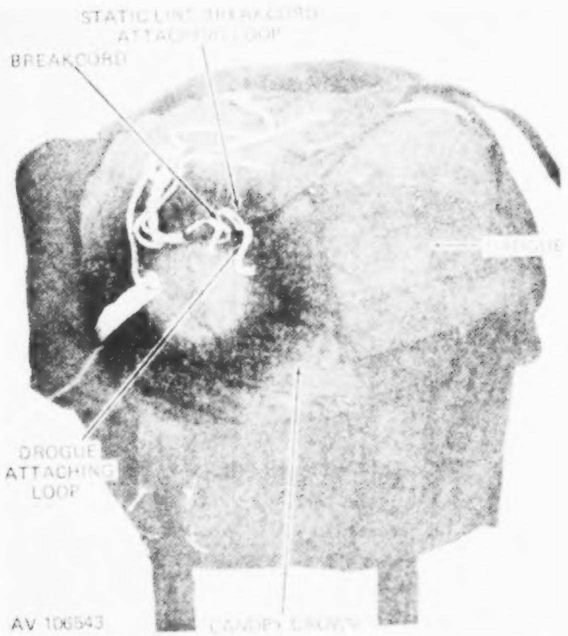

STATIC LINE BREAKCORD
ATTACHING LOOP
BREAKCORD
DROGUE
DROGUE
ATTACHING
LOOP
AV 106543
CANOPY CROWN

Figure 2–50. Drogue attached to static line and stowed on canopy crown, G-13 24-foot-diameter cargo parachute.

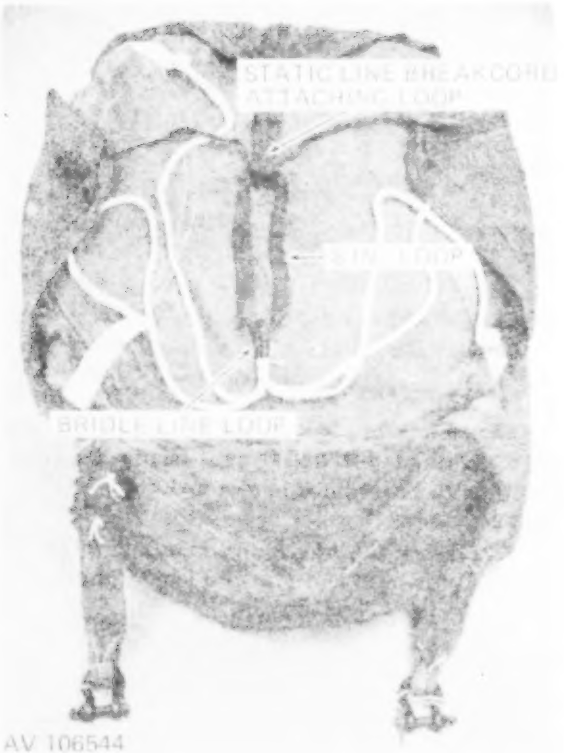

STATIC LINE BREAKCORD ATTACHING LOOP
6-IN. LOOP
BRIDLE LINE LOOP
AV 106544

Figure 2-51. Installing breakcord on breakaway static line, G-13 24-foot-diameter cargo parachute.

c. Cut a 36-inch length of 1/4-inch-wide, type I cotton webbing for use as a pack closing tie. Pass one end of the webbing length through the pack closing loop on the flap located at the lower end of the pack, through the static line pack opening loop, and through the remaining three pack closing loops (fig. 2-53). Insure the webbing length does not pass over the static line.

d. Draw the pack closing tie webbing taut and secure the webbing ends with a surgeon's knot and a locking knot (fig. 2-54). Trim tie ends to 2 inches.

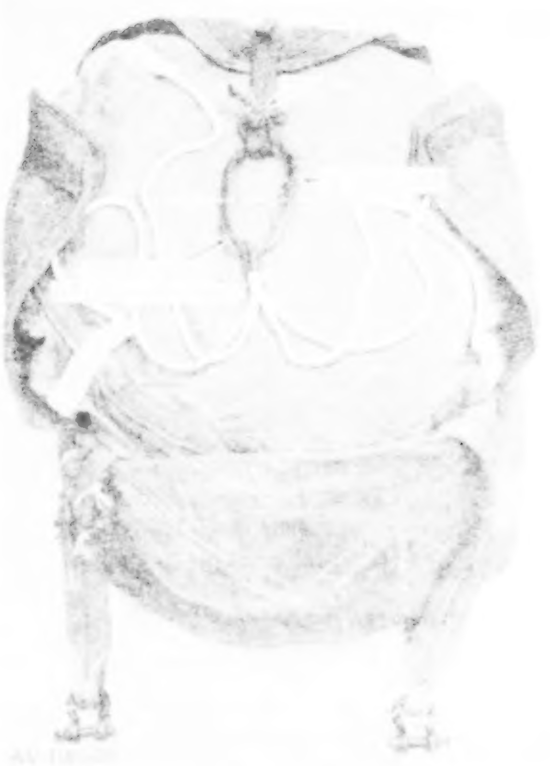


Figure 2-52. Static line connected, G-13 24-foot-diameter cargo parachute.

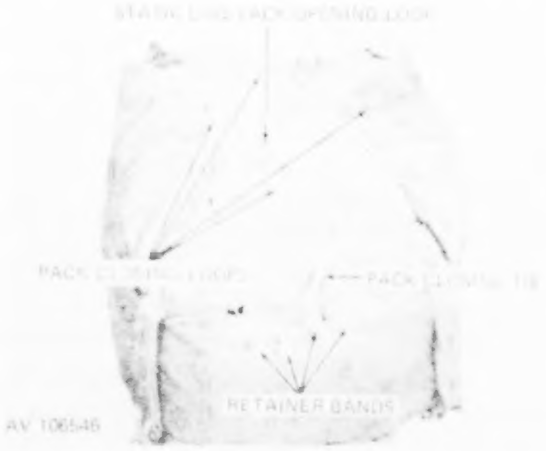

STATIC LINE PACK OPENING LOOP
PACK CLOSING LOOPS
PACK CLOSING TIE
RETAINER BANDS
AV 106546

Figure 2-53. Installing pack closing tie, G-13 24-foot-diameter cargo parachute.

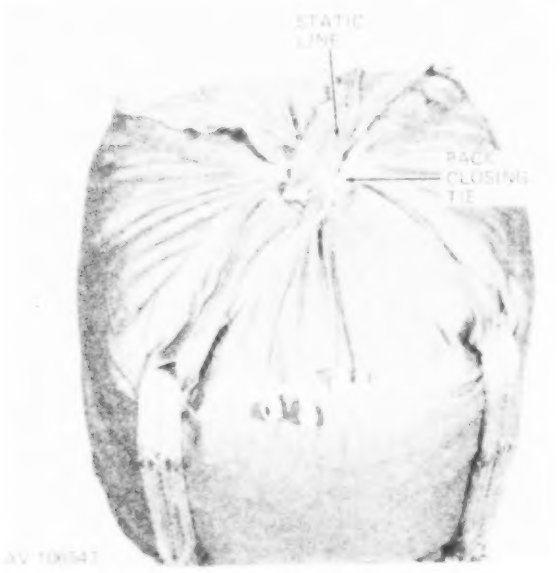

STATIC LINE
PACK CLOSING TIE
AV 106547

Figure 2-54. Pack closing tie completed, G-13 24-foot-diameter cargo parachute.

NOTE

> If a G-13 cargo parachute is to be used to airdrop a wing load or a load from a helicopter hook, an additional pack closing tie using one turn single, 1/4-inch-wide, type I cotton webbing shall be installed and routed in the same manner as the original pack closing tie. The addition of a second pack closing tie will prevent premature or inadvertent opening of the pack caused by in-flight forces.

2-23. Stowing the Static Line

a. Stow the static line, forming the first stow at the upper right of the pack. Secure the stow with a rubber retainer band attached to the static line retaining strap. Make the first stow and each succeeding stow to extend 2 inches beyond the outer edge of the static line retaining straps.

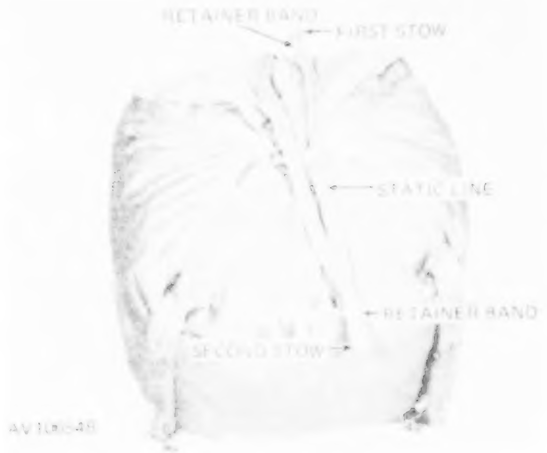

RETAINER BAND
FIRST STOW
STATIC LINE
RETAINER BAND
SECOND STOW
AV 106548

Figure 2-55. First and second static line stows completed, G-13 24-foot-diameter cargo parachute.

b. Form the second static line stow on the lower right of the pack and secure the stow according to procedures in *a.* above (fig. 2-55).

c. Using the procedures in *a.* and *b.* above, continue stowing the static line length alternately

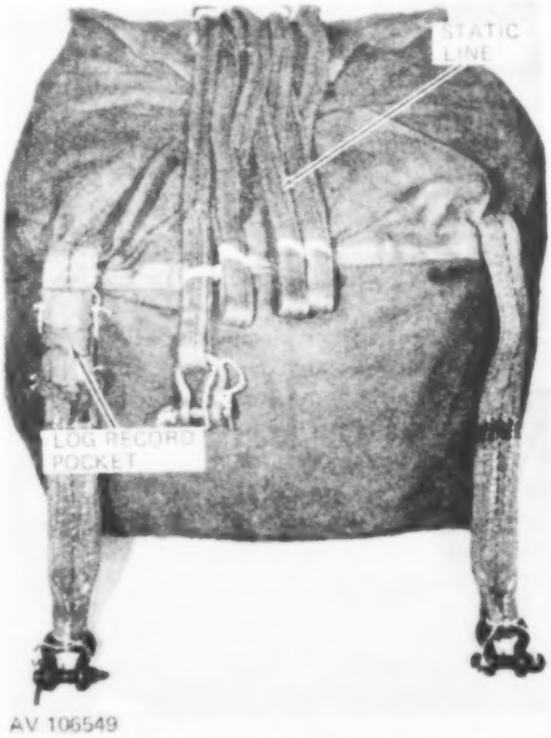

STATIC LINE
LOG RECORD POCKET
AV 106549

Figure 2-56. Static line stowage completed, G-13 24-foot-diameter cargo parachute.

from right to left until the static line is completely stowed (fig. 2-56).

NOTE

The static line (P/N 11-1-219) can now be used on the G-14, G-13 and T7-A cargo parachutes. Pack opening loop must be added in accordance with Figure 3-15.

2-24. Completing the Pack

a. Remove the Army Parachute Log Record (DA Form 10-42 or 3912) from the inspection data pocket (log record pocket) on the left riser strap and record the pack data as prescribed in TM 10-1670-201-23/TO 13C-1-41. Upon completion of the entries, return the record to the pocket.

b. Fold the risers diagonally across the top of the pack and temporarily secure each suspension clevis with a pack tiedown strap (fig. 2-57).

c. When a G-13 cargo parachute is to be used on an aircraft that is not equipped with an anchor line cable and a breakaway static line is required, perform the following:

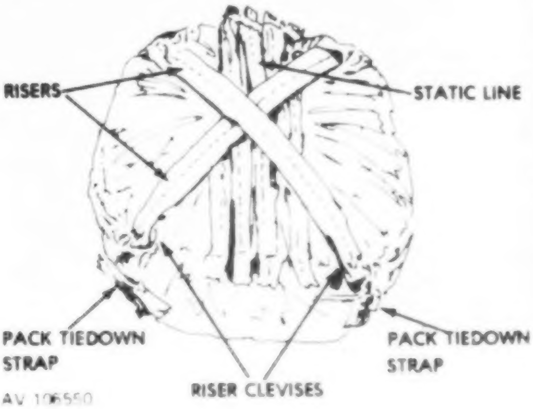
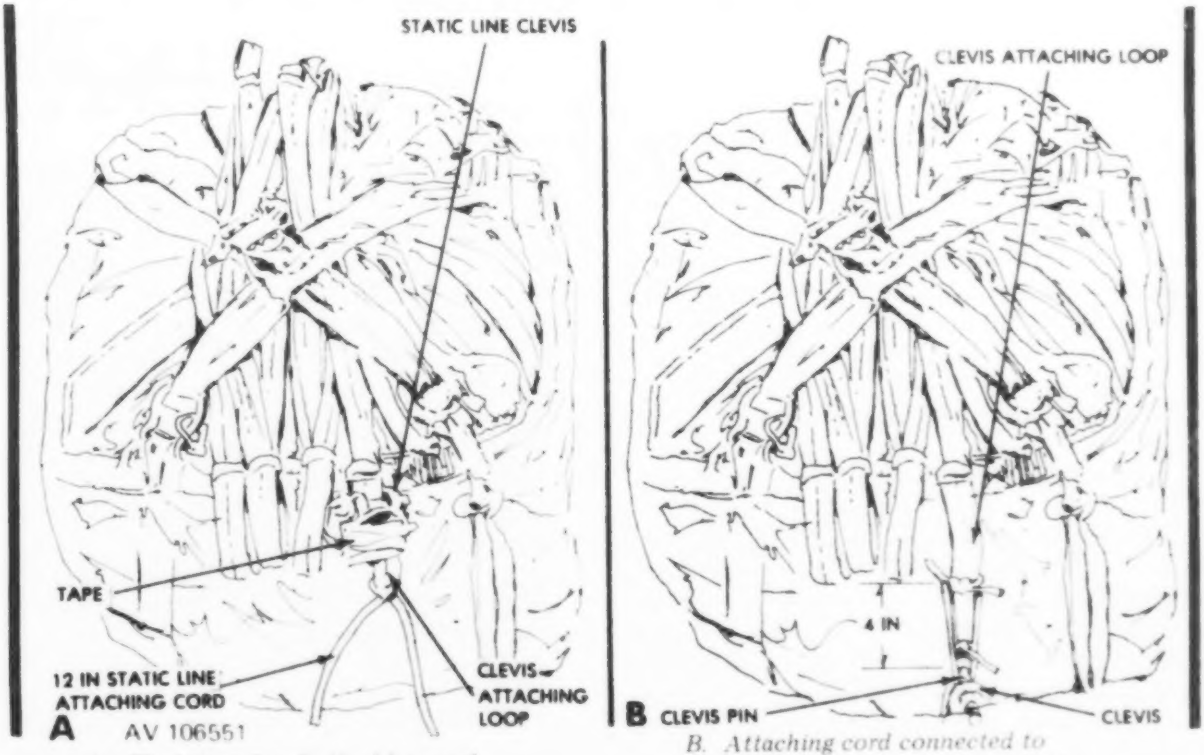

RISERS
STATIC LINE
PACK TIEDOWN STRAP
PACK TIEDOWN STRAP
RISER CLEVISES
AV 106550

Figure 2-57. Risers stowed and clevises temporarily secured, G-13 24-foot-diameter cargo parachute.


STATIC LINE CLEVIS
TAPE
12 IN STATIC LINE ATTACHING CORD
CLEVIS ATTACHING LOOP
A
AV 106551
CLEVIS ATTACHING LOOP
4 IN
B
CLEVIS PIN
CLEVIS

A. Clevis taped and attaching cord installed, typical.

B. Attaching cord connected to riser clevis and static line clevis attaching loop.

Figure 2-58. Alternate configuration details for a breakaway static line, G-13 24-foot diameter cargo parachute.

(1) Fold the static line riser clevis back against the static line webbing and secure the clevis to the webbing with at least two turns of pressure-sensitive tape.

(2) Cut a 12-inch length of type III nylon cord and remove the core threads. Center the cord length in the clevis attaching loop on the static line end (A, fig. 2-58). Using a suitable method, temporarily secure the cord ends.

d. When a G-13 cargo parachute is to be used with a breakaway static line which will be connected to an anchor line cable, the following shall be accomplished:

(1) Remove the riser clevis from the static line end, reinstall the clevis pin and safety pin in the clevis, and position the clevis with the clevis pin facing the static line clevis attaching loop.

(2) Cut a 12-inch length of type III nylon cord and remove the core threads. Center the cord length around the clevis pin of the riser clevis removed in (1) above. Insure the cord ends are alined.

(3) Pass each cord running end through the static line clevis attaching loop from opposite directions and form a 4-inch-long loop between the clevis pin and the static line end. Secure the cord running ends on top of the static line clevis attaching loop with a surgeon's knot and a locking knot (B). Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the suregon's knot and locking knot.

Section IV. THE G-14 34-FOOT-DIAMETER CARGO PARACHUTE

2-25. General

Packing of the G-14 34-foot-diameter cargo parachute is similar to that of the G-13 24-foot-diameter cargo parachute. However, due to the individual parachute construction differences and other variables, only the packing procedures outlined in this section will be used to pack the G-14 34-foot-diameter parachute for use.

2-26. Folding the Canopy Gores

a. Apply tension to the canopy assembly.

b. Pick up the right group of suspension lines (lines 17 through 32) with the left hand, and while holding the top center gore in position with the right hand (fig. 2-59), flip the right group of gores over the left group of gores. During the gore flipping process, simultaneously pull the bottom center gore to the right side of the table.

c. Using the right hand, pick up line 17, pull the line to the right side of the table, and place the line between the thumb and forefinger of the right hand.

d. With the thumb and forefinger of the left hand, raise line 18 to expose the gore between lines 17 and 18 (fig. 2-60).

e. Move line 18 to the right table edge in a manner which allows the gore between lines 17 and 18 to fold neatly and drape over the right edge of the table (fig. 2-61). Place line 18 in the right hand on top of line 17.

f. Repeat procedures *d.* and *e.* above for each succeeding line in the right group until gore 32 is folded. Scissor the right suspension line group between the middle finger and the forefinger of the right hand (fig. 2-62). Rotate the hand one-quarter turn clockwise.

g. Using the left hand, raise line 1 to expose the top center gore.

h. Bring the left hand down to the right, allowing the top center gore to fold over the right gore group. Place line 1 between the right hand thumb and forefinger.

i. Repeat the procedures in *g.* and *h.* above for succeeding lines 2 through 15.

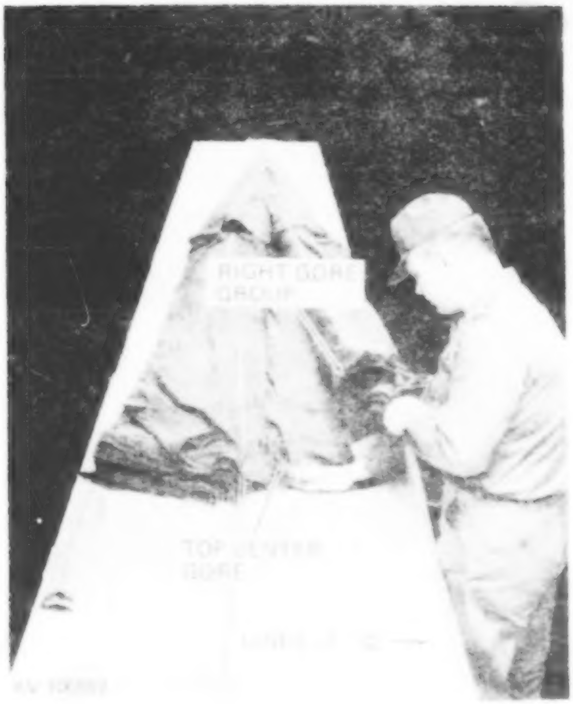

RIGHT GORE GROUP
TOP CENTER GORE

Figure 2–59. Preparing to flip right gore group, G-14 34-foot-diameter cargo parachute.

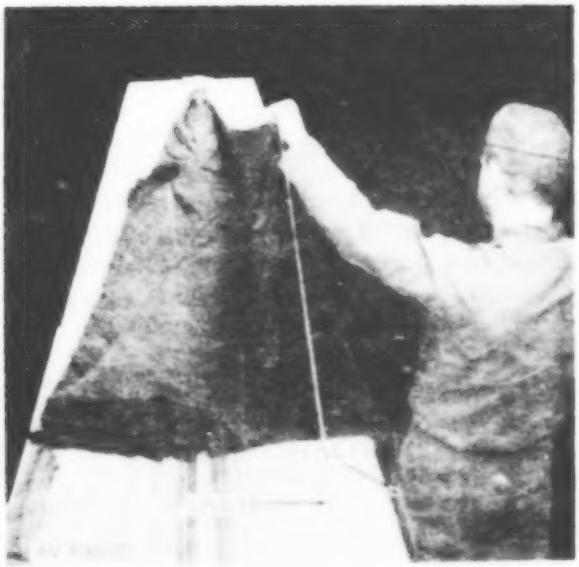


Figure 2–60. Exposing the gore between lines 17 and 18, G-14 34-foot-diameter cargo parachute.

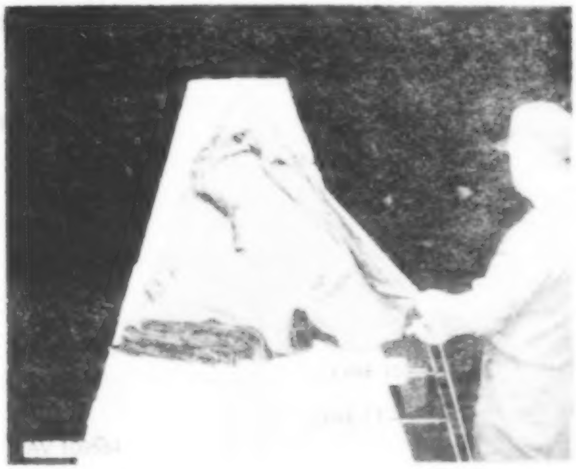


Figure 2–61. Draping the gore between lines 17 and 18, G-14 34-foot-diameter cargo parachute.

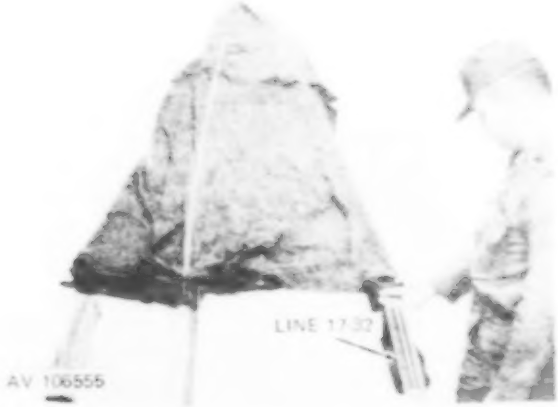

LINE 17-32
AV 106555

Figure 2–62. Right gore group folded and scissoring the right suspension line group, G-14 34-foot-diameter cargo parachute.

j. Using the left hand, grasp the canopy skirt reinforcement (lower lateral band) at a point 6 inches to the right of line 16. Insert the left elbow under line 16 and gore 16 (fig. 2-63). Lower the left arm and allow gore 15 to fold to the right and gore 16 to fold to the left of the folded gores.

k. Insert the two suspension line groups into a line separator.

l. Holding the line separator and the two suspension line groups with the left hand, grasp the canopy with the right hand and pull the canopy off the right side of the table, allowing all folded gores to drape to the side of the table (fig. 2-64).

m. Slide the canopy back onto the table and rotate the suspension lines and line separator one-half turn counterclockwise which will permit the separator base to rest on the table.

n. Flip the left gore group to the left side of the table, apply a packing weight to the suspension lines, and add extra tension to the canopy.

o. To complete the canopy flatfold, dress the gores and the skirt reinforcement (lower lateral band) (fig. 2-65). Insure that 16 gores are in each gore group.

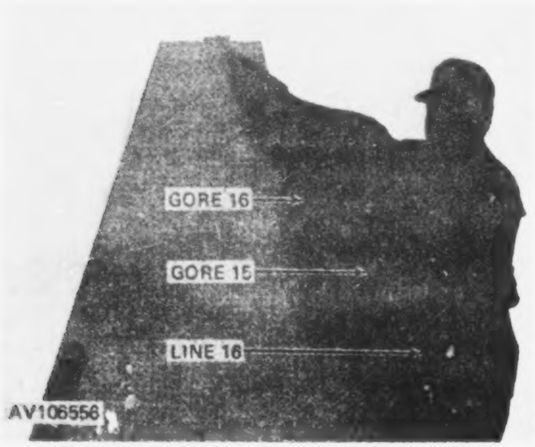


Figure 2–63. Folding gores 15 and 16, G-14 34-foot-diameter cargo parachute.

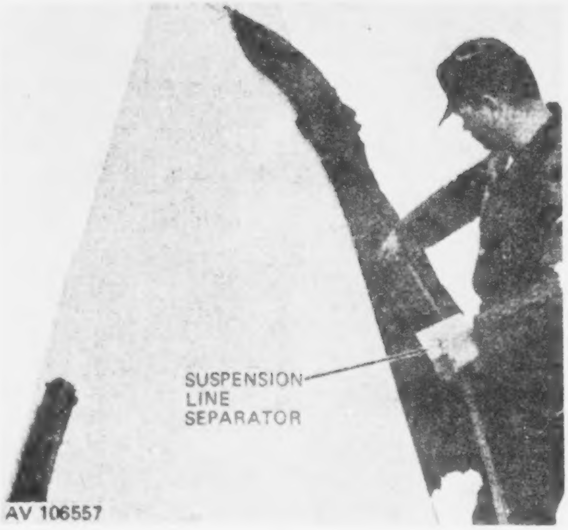


Figure 2–64. Pulling the canopy from the table, G-14 34-foot-diameter cargo parachute.

p. Lift the top radial line and insure there is a clear channel between the two gore groups. the channel is not clear, pull gently along th folded edges of the gores to remove fabric from the channel. Repeat procedures *a.* through *o.* above if unable to clear the channel.

q. Working from the canopy skirt to a point 48 inches below the vent reinforcement (upper lateral band), longfold the outer edge of the right gore group in toward the canopy center to the radial seam. Fold the left gore group in a like manner and apply packing weights to the folded gores (fig. 2-66).

2–27. Stowing Suspension Lines

a. Position the parachute pack on th table adjacent to the area at which the suspension lines are attached to the risers. Roll the pack sides down to aid the stowage of the suspension lines.

b. To secure the suspension line stows, install rubber retainer bands, as required, at equal intervals along the left and right suspension line retaining straps on the inside bottom of the pack.

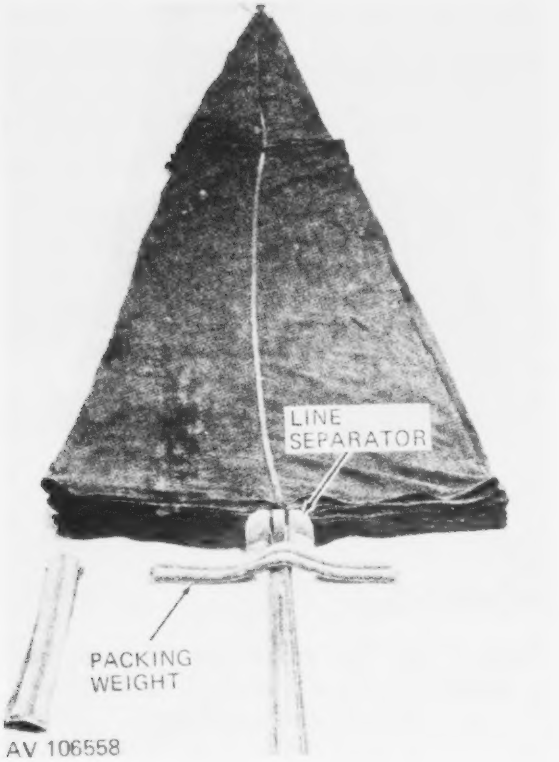


Figure 2–65. Canopy flatfold completed, G-14 34-foot-diameter cargo parachute.

c. Release tension from the canopy and position the risers, spreader, and the suspension lines on the lower edge of the pack bottom (fig. 2-67).

d. Form and secure the first suspension line stow at the lower right corner of the pack.

e. While holding the first stow in position on the pack, rotate the pack one-quarter turn counterclockwise.

f. Form and secure the second suspension line stow at the lower left corner of the pack, making the stows the same width as the inside bottom of the pack (fig. 2-68).

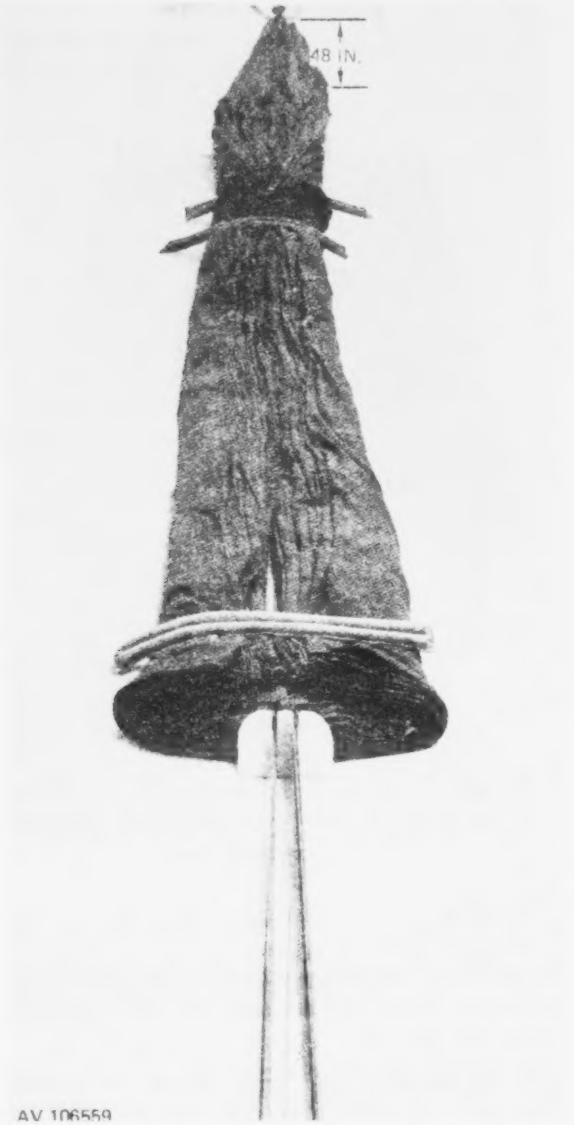


Figure 2–66. Canopy longfold completed, G-14 34-foot-diameter cargo parachute.

g. Continue stowing suspension lines alternately from right to left until the lines are stowed within 12 to 14 inches of the canopy skirt. Rotate the pack one-quarter turn clockwise (fig. 2-69).

2–28. Stowing the Canopy

a. Remove the bridle loop from the vent attaching hook.

best copy available

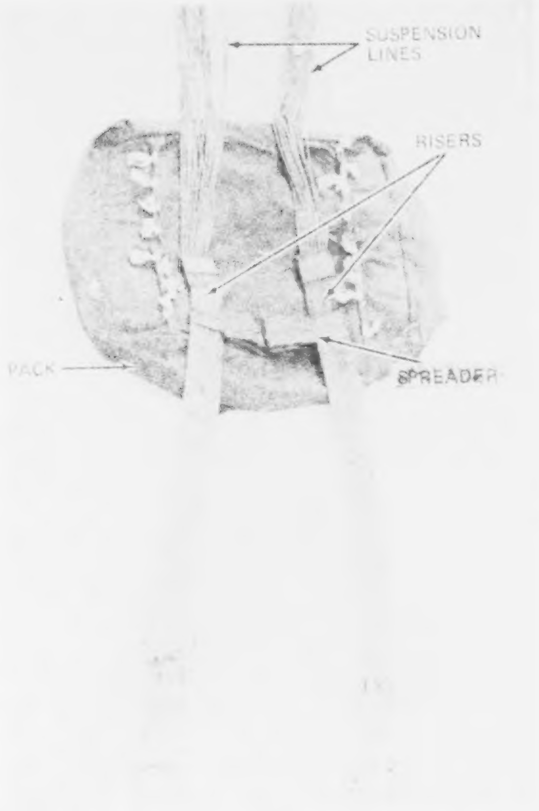


Figure 2-67. Suspension line stowage preparation completed, G-14 34-foot-diameter cargo parachute.

b. Holding the pack firmly in position with the left hand, grasp the canopy skirt with the right hand and place the canopy over the stowed suspension lines. Aline the canopy skirt with the lower edge of the pack inside bottom (fig. 2-70). Unroll the pack sides.

c. Place the left hand on top of the canopy at the upper edge of the pack, place the right hand under the canopy at a point 15 inches above the positioned left hand and accordion fold the canopy into the pack.

d. Continue accordion folding the canopy into the pack until the vent lines and bridle loop are centered on top of the folded canopy. Insure the left riser extends from the pack lower left corner and the right riser extends from the pack lower right corner.

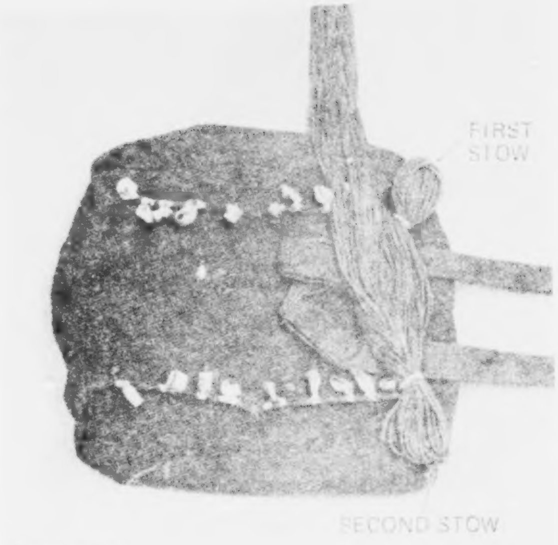


Figure 2-68. First and second suspension line stows formed and secured, G-14 34-foot-diameter cargo parachute.

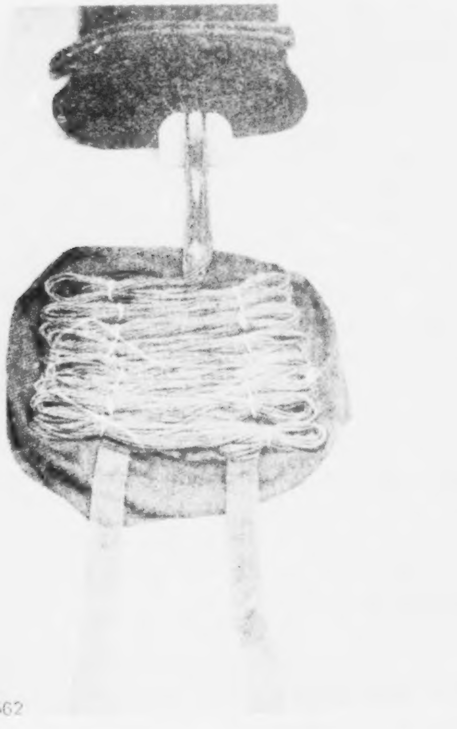


Figure 2-69. Suspension line stowage completed and pack rotated, G-14 34-foot-diameter cargo parachute.

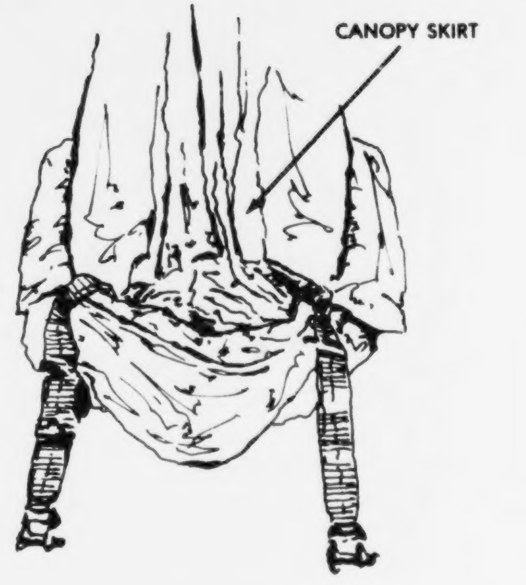


Figure 2–70. Canopy skirt positioned in pack, G-14 34-foot-diameter cargo parachute.

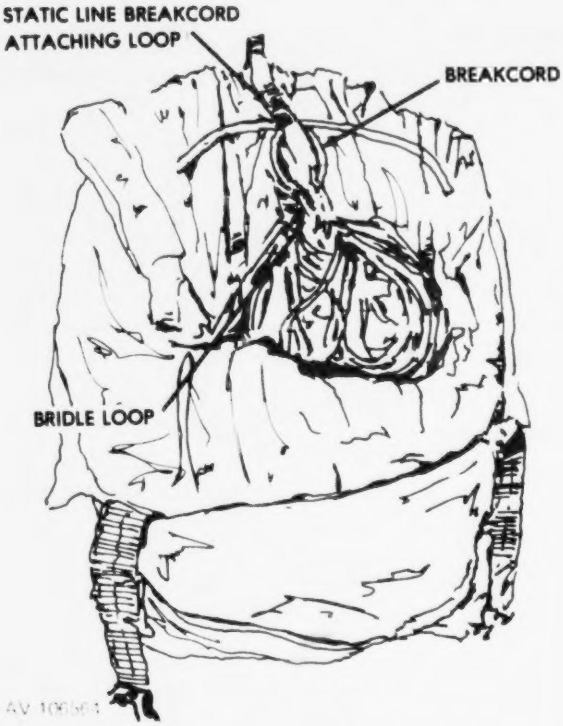

STATIC LINE BREAKCORD ATTACHING LOOP
BREAKCORD
BRIDLE LOOP
AV 106564

Figure 2–71. Installing breakcord tie on non-breakaway static line, G-14 34-foot-diameter cargo parachute.

2–29. Attaching a Nonbreakaway Static Line and the Drogue

a. Static Line.

(1) Cut a 12-inch length of type III nylon cord and remove the core threads.

(2) Position the static line breakcord attaching loop at a point above and adjacent to the canopy bridle loop.

(3) Pass one end of the cord length through the canopy bridle loop and center the cord length in the loop.

(4) Pass each end of the cord length through the static line breakcord attaching loop from opposite directions (fig. 2-71) and draw the cord ends tight. Secure the cord ends together on top of the breakcord attaching loop with a surgeon's knot and a locking knot (fig. 2-72). Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

b. Drogue. A drogue may be attached during packing or after packing using the following procedures, as applicable:

(1) *During packing.*

(a) After the static line is attached to the canopy bridle loop, pass 3 to 4 inches of the drogue attaching loop through the static line breakcord attaching loop.

(b) Pass the drogue body through the extended drogue attaching loop end and draw the drogue attaching loop tight.

(c) Stow the drogue body on top of the canopy adjacent to the canopy vent (fig. 2-73) and insure the drogue does not become entangled in the vent lines.

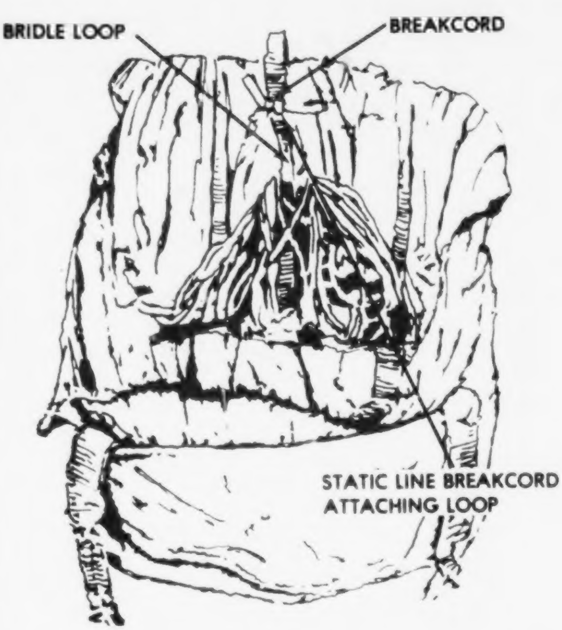


Figure 2–72. Nonbreakaway static line breakcord installed, G-14 34-foot-diameter cargo parachute.

(2) *After packing completed.*

(a) Pull the pack flaps as far apart as possible without cutting the pack closing tie and locate the static line breakcord attaching loop.

(b) Attach and stow the drogue using the procedures in (1) above.

NOTE

For C-141 aircraft two drogues are required. Drogues are attached the same as the above and are inserted one on top of the other. This applies to the G-13 and T-7A cargo parachutes also.

2–30. Attaching a Breakaway Static Line

a. Cut a 30-inch length of 1/2-inch-wide tubular nylon webbing.

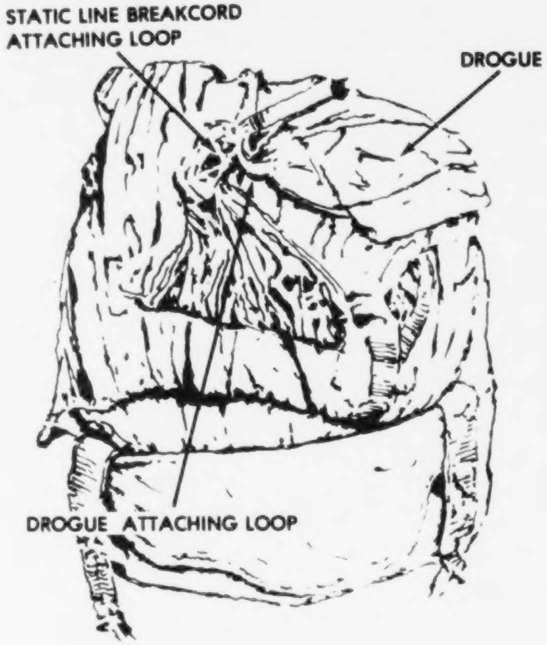


Figure 2–73. Drogue attached to static line and stowed on top of canopy, G-14 34-foot-diameter cargo parachute.

b. Position the static line breakcord attaching loop at a point adjacent to the canopy bridle loop.

CAUTION

The method of attaching a breakaway static line as shown in figure 2-80 is not to be used for helicopter drops.

c. Attach the static line breakcord attaching loop to the canopy bridle loop by making one turn single with the cord length, forming an 8-inch loop in the cord length between the two loops (fig. 2-74). Secure the cord ends with a surgeon's knot and a locking knot. Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

NOTE

The static line (P/N 11-1-219) can now be used on the G-14, G-13 and T7-A cargo parachutes. Pack opening loop must be added in accordance with Figure 3-15.

2–31. Closing the Pack

a. Fold the vent lines and the canopy bridle loop with the 10-inch-long static line attaching cord, if applicable, on top of the stowed canopy inside the pack. Also fold the pack closing flaps over the stowed canopy assembly.

b. Cut a length of 1/4-inch-wide, type I cotton webbing for use as a pack closing tie. Pass one end of the webbing length through three of the pack closing loops on the pack flaps, through the static line pack opening loop, and through the remaining pack closing loop (fig. 2-75). Insure the webbing length does not pass over the static line.

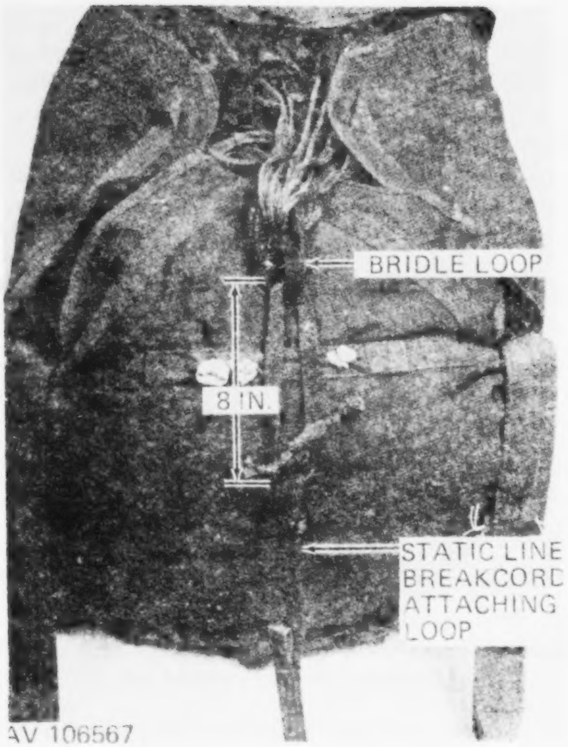

BRIDLE LOOP
8 IN.
STATIC LINE BREAKCORD ATTACHING LOOP
AV 106567

Figure 2–74. Breakaway static line connected, G-14 34-foot-diameter cargo parachute.

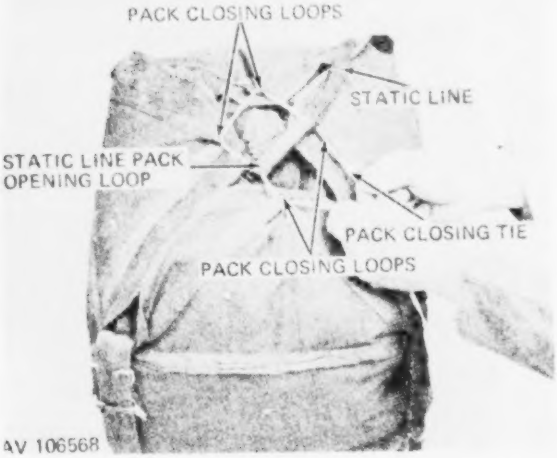

PACK CLOSING LOOPS
STATIC LINE
STATIC LINE PACK OPENING LOOP
PACK CLOSING TIE
PACK CLOSING LOOPS
AV 106568

Figure 2–75. Installing pack closing tie, G-14 34-foot-diameter cargo parachute.

c. Draw the webbing length taut and secure the webbing ends with a surgeon's knot and a locking knot (fig. 2-76). Trim tie ends to 2 inches.

NOTE

If a G-14 34-foot-diameter cargo parachute is to be used to airdrop a wing load or a load from a helicopter cargo hook, an additional pack closing tie using one turn single, 1/4-inch-wide, type I cotton webbing shall be installed and routed in the same manner as the original pack closing tie. The addition of a second pack closing tie will prevent premature or inadvertent opening of the pack caused by inflight forces.

2–32. Stowing the Static Line

a. Install two rubber retainer bands on each of the four loops formed on the static line retaining straps located at the upper and lower ends of the pack.

b. Stow the static line, forming the first stow at the upper right of the pack and the second stow at the lower right of the pack. Make

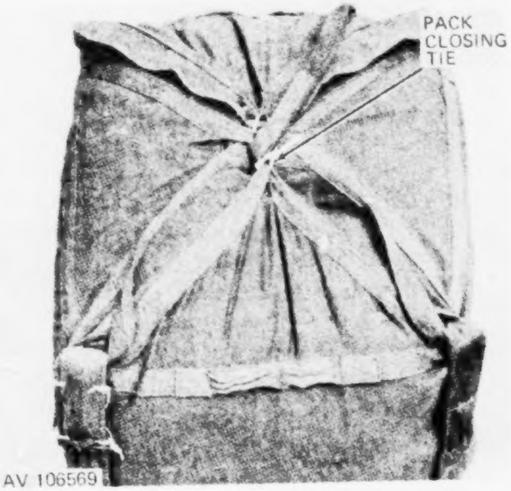

PACK CLOSING TIE
AV 106569

Figure 2–76. Pack closing tie completed, G-14 34-foot-diameter cargo parachute.

each stow to extend 2 inches beyond the outer edge of the static line retaining strap (fig. 2-77). Secure each stow with an installed rubber retainer band.

c. Using the procedure in *b.* above, continue stowing the static line length alternately from right to left until the static line is completely stowed (fig. 2-78).

2--33. Completing the Pack

a. Fold the risers diagonally across the top of the pack and temporarily secure each of the riser clevises with a pack tiedown strap on the upper end of the pack (fig. 2-79).

b. Temporarily secure the pack tiedown straps at the lower end of the pack by tieing the straps together.

c. Remove the Army Parachute Log Record (DA Form 10-42 or 3912) from the inspection data pocket (log record pocket) on the left riser strap and record the pack data as prescribed in TM 10-1670-201-23/TO 13C-1-41. Upon completion of the entries, return the record to the pocket.

d. When a G-14 cargo parachute is to be used on an aircraft that is not equipped with an

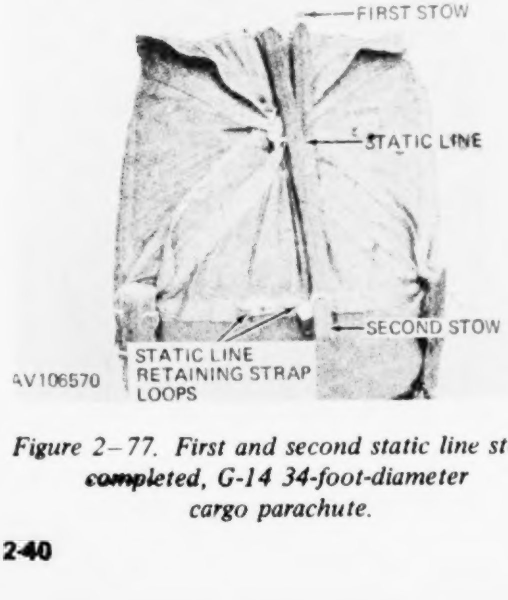

FIRST STOW
STATIC LINE
SECOND STOW
STATIC LINE RETAINING STRAP LOOPS
AV106570

Figure 2–77. First and second static line stows completed, G-14 34-foot-diameter cargo parachute.

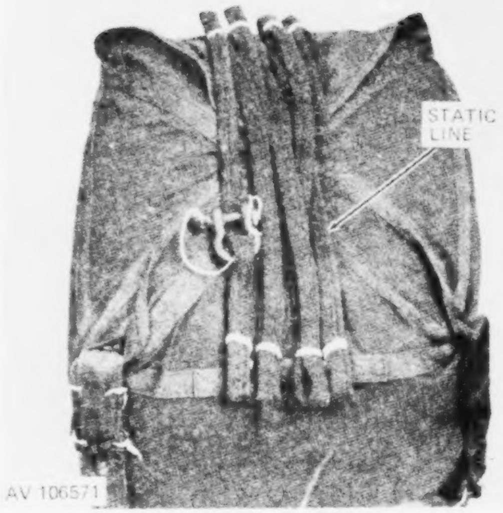

STATIC LINE
AV 106571

Figure 2–78. Static line stowage completed, G-14 34-foot-diameter cargo parachute.

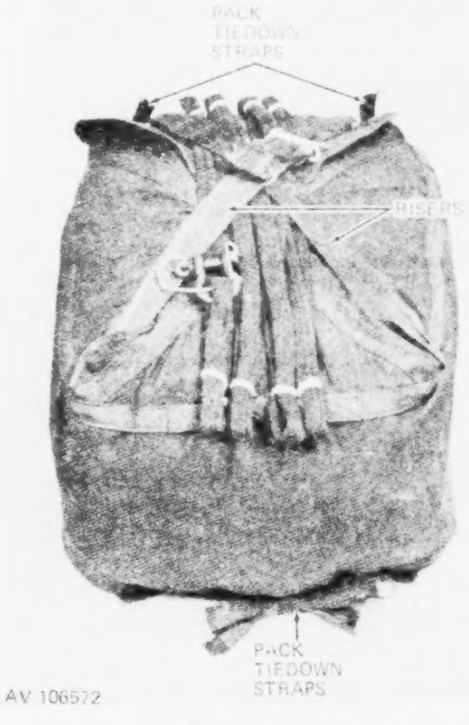

PACK TIEDOWN STRAPS
RISERS
PACK TIEDOWN STRAPS
AV 106572

Figure 2–79. Risers stowed and clevises temporarily secured, G-14 34-foot-diameter cargo parachute.

anchor line cable and a breakaway static line is required, perform the following:

(1) Fold the static line riser clevis back against the static line webbing and secure the clevis to the webbing with at least two turns of pressure-sensitive tape.

(2) Cut a 12-inch length of type III nylon cord and remove the core threads. Center the cord length in the clevis attaching loop on the static line end (fig. 2-80). Using a suitable method, temporarily secure the cord ends.

e. When a G-14 cargo parachute is to be used with a breakaway static line which will be connected to an anchor line cable, the following shall be accomplished:

(1) Remove the riser clevis from the static line end, reinstall the clevis pin and safety pin in the clevis, and position the clevis above the static line end with the clevis pin facing the static line clevis attaching loop.

(2) Cut a 12-inch length of type III nylon cord and remove the core threads. Center the cord length around the clevis pin of the riser clevis removed in (1) above. Insure the cord ends are alined.

(3) Pass each cord end through the static line clevis attaching loop from opposite directions and form a 4-inch-long loop between the clevis pin and the static line end (fig. 2-81). Secure the cord running ends on top of the static line clevis attaching loop with a surgeon's knot and a locking knot. Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

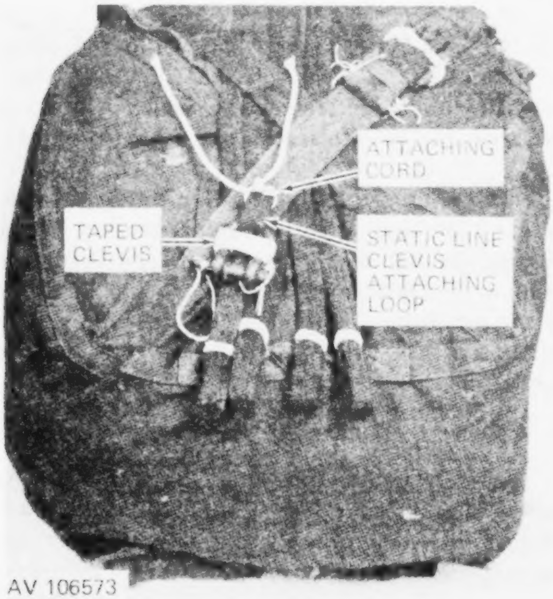


Figure 2-80. Breakaway static line clevis taped and attaching cord installed, G-14 34-foot-diameter cargo parachute.

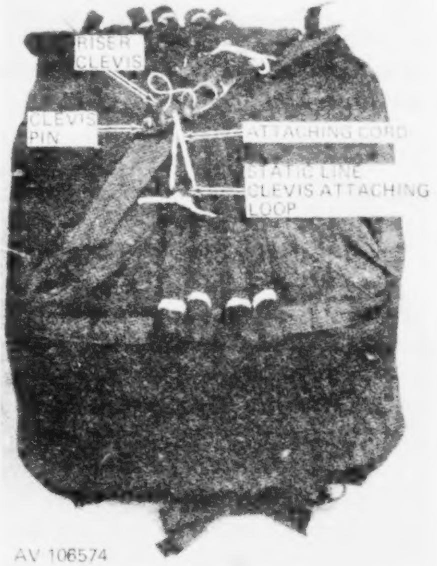


Figure 2-81. Attaching cord connected to riser clevis and static line clevis attaching loop on breakaway static line, G-14 34-foot-diameter cargo parachute.

Section V. THE 38-FOOT-DIAMETER RCAT CARGO PARACHUTE

2–34. General

When packing a 38-foot-diameter RCAT cargo parachute, determine the location of the skirt hesitator band. On some 38-foot-diameter RCAT canopy assemblies the skirt hesitator band is located on radial seam 19, while on other RCAT canopy assemblies the band is located on radial seam 20. Regardless of which location the band is in, the packing procedures are basically the same, except as annotated within a specific procedure.

2–35. Folding the Canopy Gores

a. Apply tension to the canopy assembly.

b. Pick up the right group of suspension lines (lines 20 38) with the left hand, and while holding the top center gore in position with the right hand (fig. 2-82), flip the right group of gores over the left group.

c. Using the right hand, pick up line 20 at the canopy skirt and place the line between the thumb and forefinger of the right hand.

d. Move line 20 to the right table edge, and using the thumb and forefinger of the left hand, raise line 21 to expose the gore between lines 20 and 21.

e. Move line 21 to the right table edge in a manner which allows the gore between lines 20 and 21 to fold and drape over the right edge of the table. Place line 21 in the right hand on top of line 20.

f. Repeat procedures *c.* through *e.* above for each succeeding line in the right group.

g. Scissor the right suspension line group between the middle finger and forefinger of the right hand (fig. 2-83). Rotate the right hand one-quarter turn clockwise.

h. Repeat the procedures in *c.* through *e.* above for the left suspension line group, beginning with line 1 and working through line 18.

i. Grasp the skirt reinforcement (lower lateral band) of the canopy at a point 6 inches to the right of line 19, and insert the elbow of the left arm under suspension line 19 and gore 19. Lower the left arm and allow gore 18 to fold to the right and gore 19 to fold to the left of the folded gores. If the skirt hesitator band is located on radial seam 19, place line 19 on top of line 18 with gore 18 on the right and gore 19 on the left. Should the skirt hesitator band be located on radial seam 20, flip gore 19 to the right group (fig. 2-84).

j. Insert the two suspension line groups into a line separator.

k. Holding the line separator and the two suspension line groups with the left hand, grasp the canopy with the right hand and pull the canopy off the right side of the table, allowing all folded gores to drape to the side of the table.

l. Slide the canopy back onto the table, rotating the line separator and suspension line one-half turn counterclockwise which will allow the separator base to rest on the table (fig. 2-85).

m. Flip the left gore group to the left side of the table and apply additional tension. When flipping the left gore group, if the skirt hesitator band is on radial seam 20, flip the top 20 gores to the left side of the table and then flip gore 1 to the top right which will make 19 gores in each gore group.

n. Dress the gores and skirt reinforcement (lower lateral band) (fig. 2-86). Insure there are 19 gores in each group. Place a packing weight on the suspension lines.

o. Lift the top radial line (fig. 2-87) and insure a clear channel exists between the two gore groups. If the channel is not clear, pull gently along the folded edges of the gores to remove fabric from the channel. If the channel cannot be cleared, repeat procedures *b.* through *n.* above.

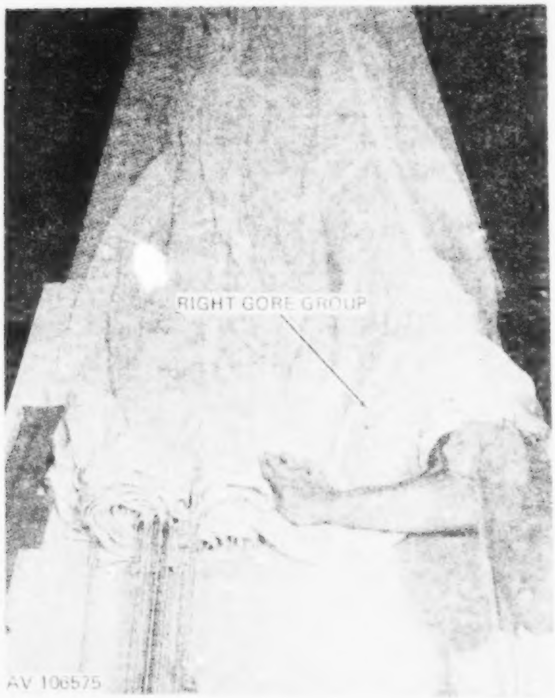

RIGHT GORE GROUP
AV 106575

Figure 2–82. Preparing to flip right gore group, 38-foot-diameter RCAT cargo parachute.

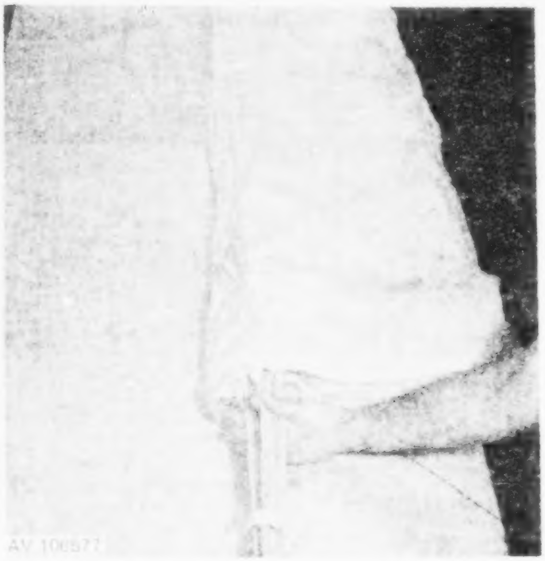


Figure 2–84. Canopy gore group folding completed, 38-foot-diameter RCAT cargo parachute.

RIGHT SUSPENSION LINE GROUP
AV 106576

Figure 2–83. Scissoring right suspension line group, 38-foot-diameter RCAT cargo parachute.

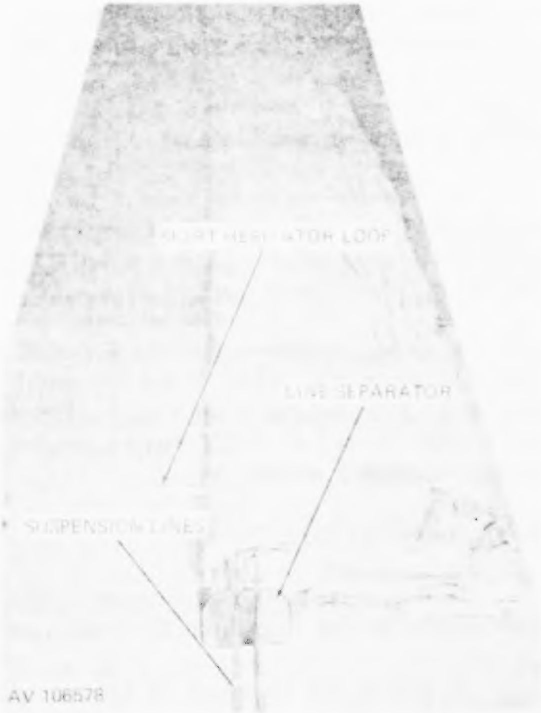

SKIRT HESITATOR LOOP
LINE SEPARATOR
SUSPENSION LINES
AV 106578

Figure 2–85. Gore group draping completed and line separator positioned, 38-foot-diameter RCAT cargo parachute.

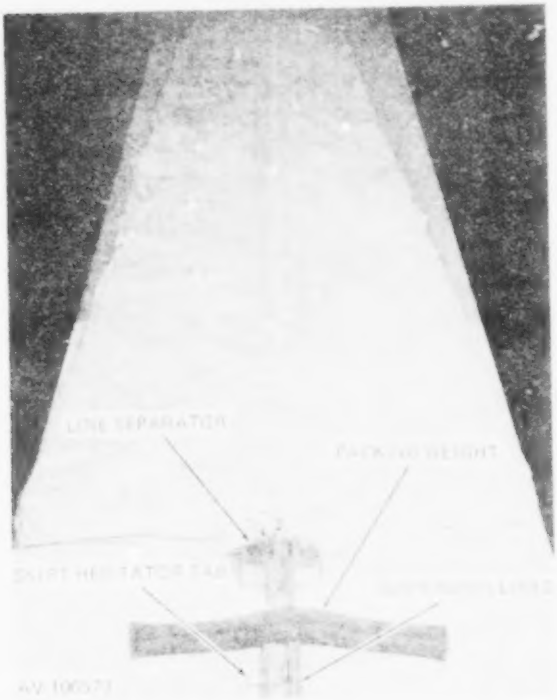


Figure 2–86. Canopy flatfold completed, 38-foot-diameter RCAT cargo parachute.

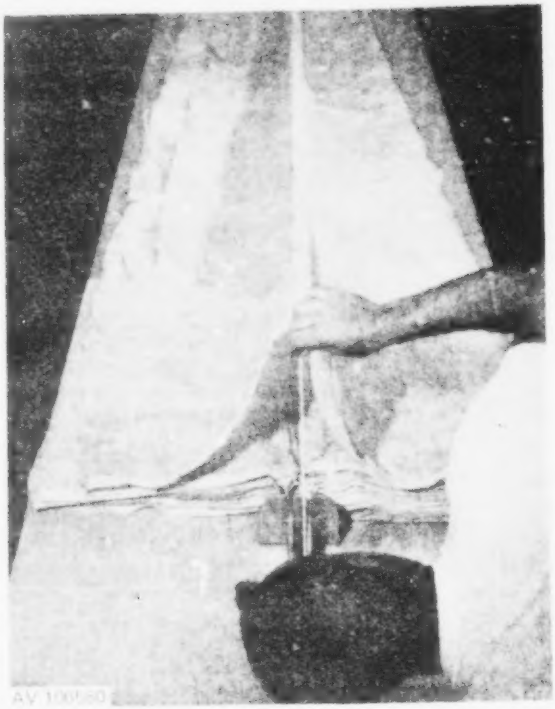


Figure 2–87. Checking channel between the tw gore groups, 38-foot-diameter RCAT cargo parachute.

2–36. Longfolding the Canopy.

a. Working with two-thirds of the canopy length, fold the right gore group lengthwise and position the gore group edge at a point 6 inches beyond the center radial seam.

b. Using procedures in (1) above, fold the left gore group (fig. 2-88). Insure the width of the folded gore groups at the canopy skirt does not exceed 13 inches. Apply packing weights to the folded canopy, as required.

2–37. Tieing the Skirt Hesitator

a. Release tension on the canopy assembly and remove the dee rings from the tension plate.

b. Cut a 24-inch length of 1/4-inch-wide, type I cotton webbing.

c. Thread one end of the webbing length through the right loop of the butterfly tab on the suspension lines, across the suspension lines, and through the left loop of the butterfly tab (fig. 2-89). Remove the suspension lines from the line separator.

d. Grasp the suspension lines at a point immediately below the butterfly tab and pull the suspension lines back over the canopy skirt to a point 12 inches above the skirt.

e. Pull the two loops of the skirt hesitator band around the sides of the canopy and pa each of the webbing ends through the respectiv adjacent loop toward the vent end of the canopy. Insure the butterfly tab is alined with the loor of the skirt hesitator band.

f. Secure the webbing ends above the suspension line foldback (fig. 2-90) with surgeon's knot and a locking knot. Trim tie ends to 2 inches.

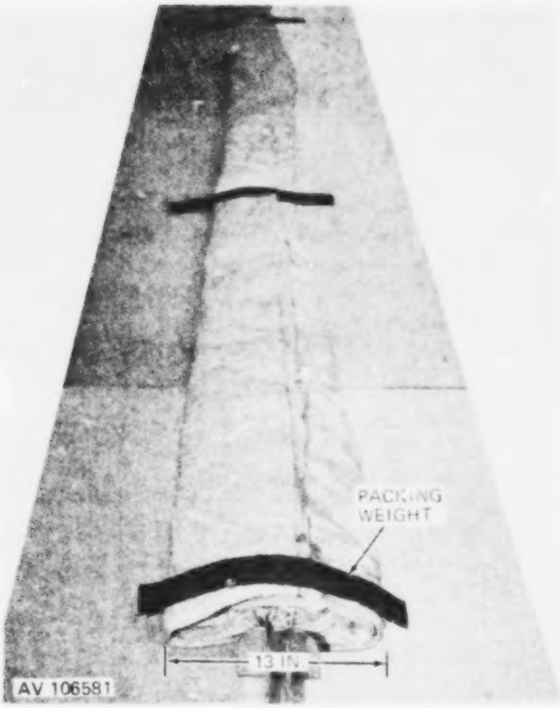


Figure 2–88. Canopy longfold completed, 38-foot-diameter RCAT cargo parachute.

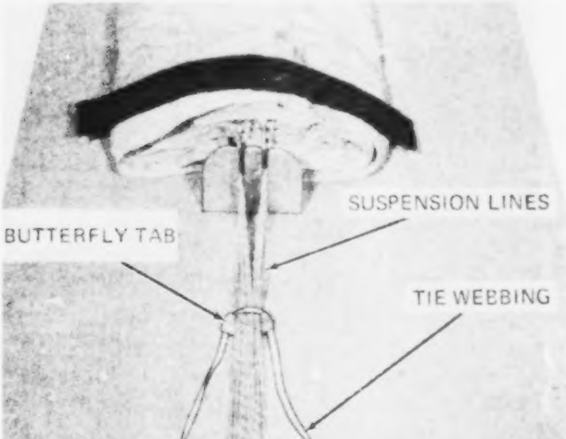


Figure 2–89. Installing skirt hesitator tie, 38-foot-diameter RCAT cargo parachute.

SUSPENSION LINES

Figure 2–90. Skirt hesitator secured, 38-foot-diameter RCAT cargo parachute

2–38. Stowing the Suspension Lines

a. Cut two 36-inch lengths of 1/4-inch-wide, type I cotton webbing for use as packing bag ties.

b. Place the two webbing lengths evenly spaced across a parachute packing box with the webbing ends extending outside the box.

c. Fit a fabricated open packing bag into the packing box over the two webbing lengths and insure the webbing ends remain outside of the packing box.

d. Position the packing box with the sloping end facing the vent end of the table, along the side of the suspension lines at a point 30 inches from the dee rings.

e. At a point immediately above the dee rings, place a doubled rubber retainer band around the suspension line. Place a second doubled rubber retainer band around the suspension lines at a point 14 inches from the dee rings.

f. Grasp the dee rings and working from inside to outside, pass the dee rings through the holes in the packing bag and packing box. Allow 20 inches of suspension lines to extend from the holes (fig. 2-91). Center the packing box on the table and allow the remaining length of suspension lines to extend over the box sloping end.

g. Pull the box toward the canopy and form the first suspension line stow at the upper right corner of the packing bag. Secure the stow with a doubled rubber retainer band.

h. Extend the suspension lines to the lower right corner of the packing bag and form the second suspension line stow (fig. 2-92). Secure the stow as outlined in g. above.

i. Continue stowing the suspension lines alternately from top to bottom, layer upon layer, until all of the suspension lines are stowed (fig. 2-93) Secure each stow as outlined in g. above.

2–39. Stowing the Canopy

a. Disconnect the canopy vent hook from the canopy vent.

b. Pull the canopy skirt 4 inches beyond the vertical end of the packing box and stow the canopy skirt within the packing bag with the skirt against the vertical end of the packing bag (fig. 2-94).

c. Begin S-folding the canopy into the packing bag, making each fold the length of the bag. Insure the canopy material is pushed neatly into the bag as each stow is made.

d. Upon completion of canopy stowage, position the canopy vent with bridle line attached at the sloping end of the box and allow the bridle line to extend from the upper right side of the packing bag (fig. 2-95).

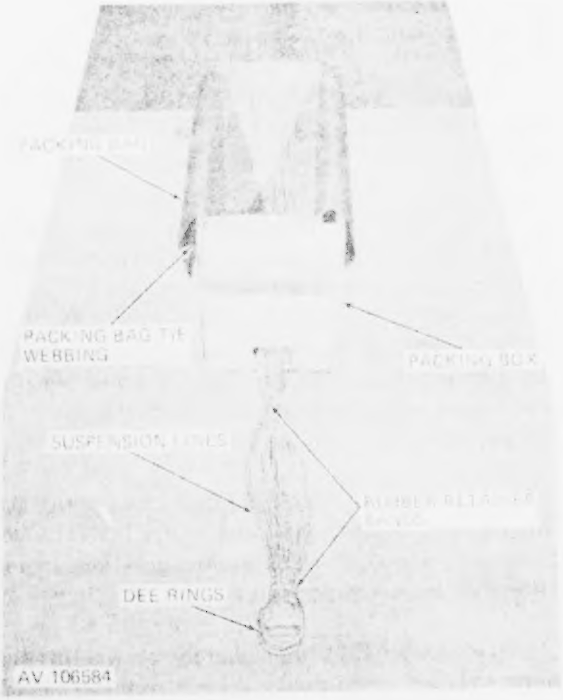

PACKING BAG
PACKING BAG TIE WEBBING
PACKING BOX
SUSPENSION LINES
RUBBER RETAINER BAND
DEE RINGS
AV 106584

Figure 2–91. Suspension lines extending through packing bag and box, 38-foot-diameter RCAT cargo parachute.

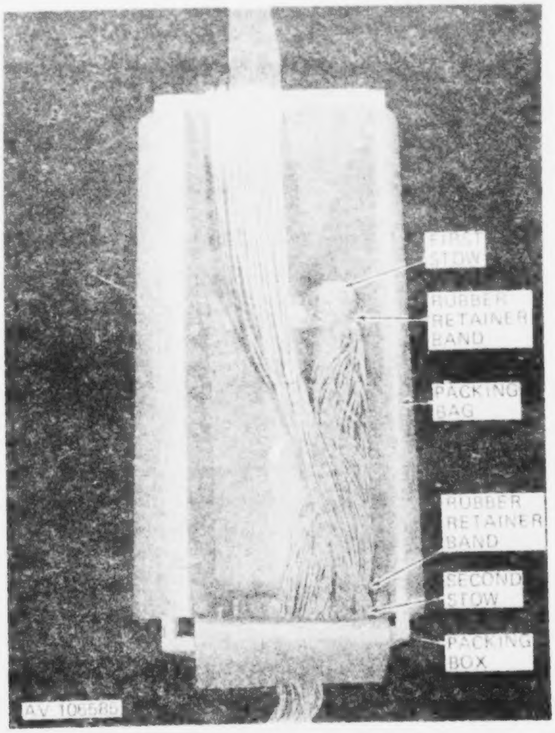

FIRST STOW
RUBBER RETAINER BAND
PACKING BAG
RUBBER RETAINER BAND
SECOND STOW
PACKING BOX
AV 106585

Figure 2–92. First and second suspension line stows completed, 38-foot-diameter RCAT cargo parachute.

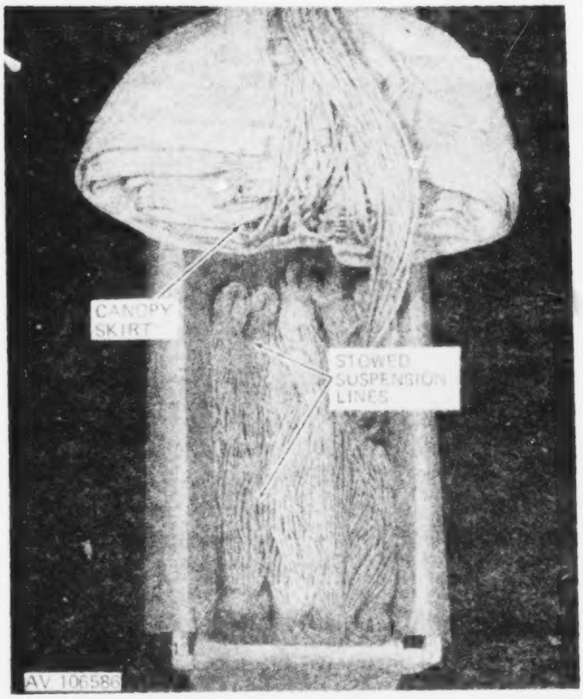


Figure 2-93. Suspension line stowage completed, 38-foot-diameter RCAT cargo parachute.

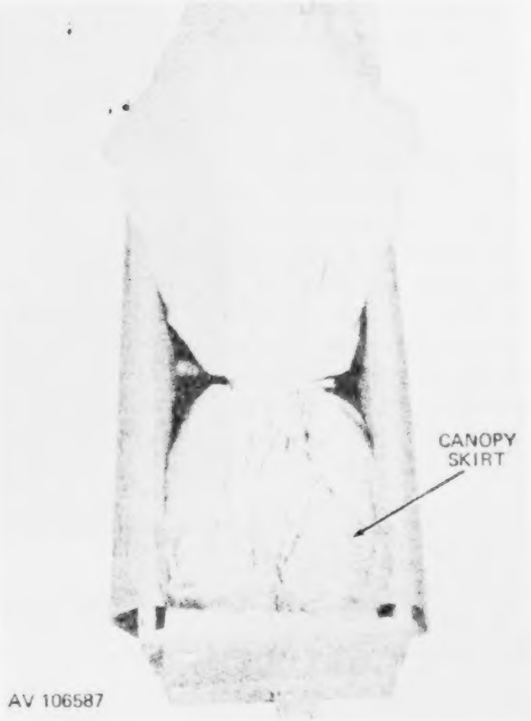


Figure 2–94. Canopy skirt stowed in packing bag, 38-foot-diameter RCAT cargo parachute.

e. Fold the packing bag end flaps over the packed parachute. Fold the bag side flaps over the end flaps.

f. Using the two webbing lengths positioned as in paragraph 2-38*b*. above, secure the packing bag flaps (fig. 2-96) by drawing each webbing length as tight as possible and securing the webbing ends with a surgeon's knot and a locking knot.

g. Remove the packed parachute assembly from the packing box.

h. Fold the exposed suspension lines back over the end and to the top of the packing bag and secure the suspension lines with the running ends of the nearest bag tie using a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

i. S-fold the exposed bridle line and insert the folded bridle line webbing under the nearest bag tie (fig. 2-97).

NOTE

The 36-inch-diameter pilot parachute used with the 38-foot-diameter RCAT cargo parachute will be attached when the cargo parachute is placed into use as prescribed in TM 9-1550-200-10.

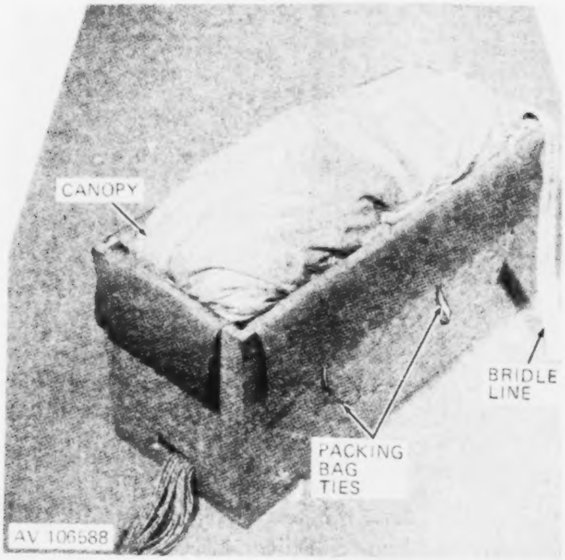

CANOPY
BRIDLE LINE
PACKING BAG TIES
AV 106588

Figure 2–95. Canopy stowage completed, 38-foot-diameter RCAT cargo parachute.

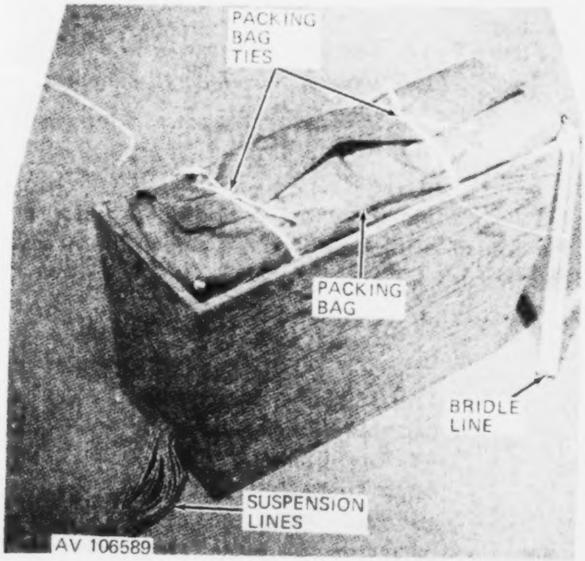

PACKING BAG TIES
PACKING BAG
BRIDLE LINE
SUSPENSION LINES
AV 106589

Figure 2–96. Packing bag closed and secured, 38-foot-diameter RCAT cargo parachute.

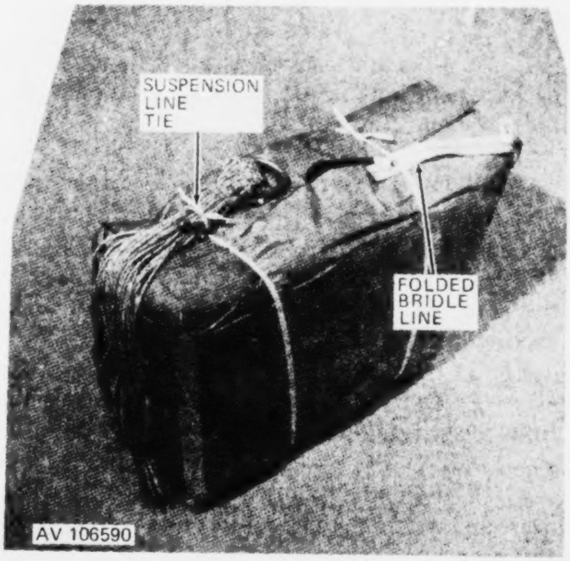

SUSPENSION LINE TIE
FOLDED BRIDLE LINE
AV 106590

Figure 2–97. Exposed suspension lines and bridle line secured, 38-foot-diameter RCAT cargo parachute.

Section VI. THE G-12D 64-FOOT-DIAMETER CARGO PARACHUTE

2–40. General

Packing of a G-12D 64-foot-diameter cargo parachute will require a three-man team and a clean work area with a stationary post or equivalent at each end. Additionally, the work area must be large enough to accommodate the 64-foot-diameter canopy assembly as prescribed by Appendix D.

2–41. Serving the Canopy Vent

a. Remove the canopy bridle loop from the stationary post, insuring the dressed vent reinforcement (upper lateral band) is not disturbed unnecessarily, and slide the bridle loop to one side of the canopy vent lines.

b. Cut a 10-inch-square piece of type II cotton muslin cloth and wrap the cloth around the center of the vent lines (fig. 2-98).

c. Center the canopy bridle loop on the wrapped portion of the vent lines.

d. Bring the cloth wrap ends together to form a loop around the bridle loop. Secure the cloth wrap ends together with a 24-inch length of 1/4-inch-wide, type I cotton webbing. Make the tie with two turns single and secure the tie with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

e. At a point 2 inches above that part of the bridle loop through which the vent lines pass, make a tie around the bridle loop using a 24-inch length of 1/4-inch-wide, type I cotton webbing (fig. 2-99). Make the tie with two turns single and secure the tie with a surgeon's knot and locking knot. Trim tie ends to 2 inches. Insure that the parachute inspection data pocket (log record pocket) on the inside of the bridle loop remains accessible. Reconnect the bridle loop to the stationary post.

2–42. Applying Tension

a. Insure that the two risers are attached to the body of a 3/4-inch suspension clevis and the applicable nut and screw are installed on the clevis.

b. Connect the clevis to a tension device and apply tension.

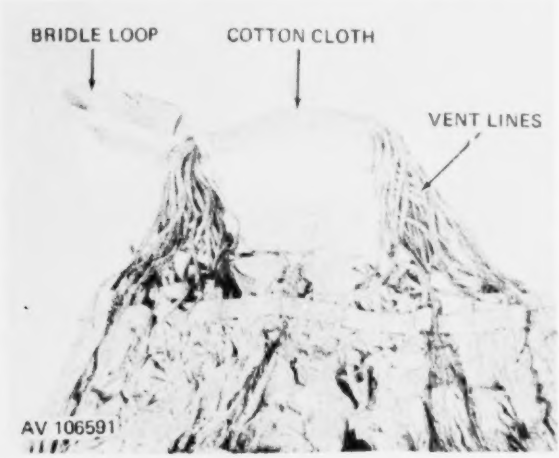


Figure 2–98. Wrapping the vent lines, G-12D 64-foot-diameter cargo parachute.

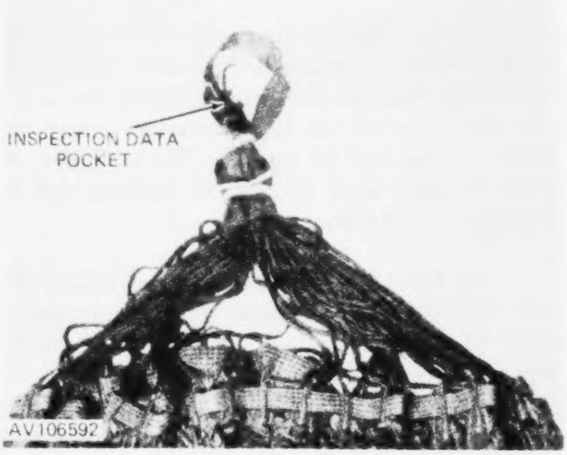


Figure 2–99. Canopy vent ties completed, G12D 64-foot-diameter cargo parachute.

NOTE

A tension jack, chain hoist, power winch, or a vehicle may be used as a tension device when applying tension to a medium size cargo parachute canopy.

2–43. Folding the Gores

The canopy gores are folded into two groups of 32 gores each as follows:

a. At a point below the canopy skirt and adjacent to the skirt reinforcement (lower lateral band), position a large line separator between the two suspension line groups and insert line 32 into the left slot of the separator and line 33 into the right slot (fig. 2-100).

b. While holding line 33 in position in the line separator, pick up the right suspension line group (fig. 2-101) and throw the right group of gores and lines over the left group of gores and lines.

c. At a point 10 feet below the canopy skirt, position a large pedestal fan in a manner which will allow the fan airstream to partially inflate the canopy.

d. To fold the first gore of the right gore group, one man passes line 34 to a second (fig. 2-102) who places the line on top of line 33 in the right slot of the line separator. Insure that while placing line 34 into the line separator, the gore between lines 33 and 34 deflates and lies flat in a folded manner.

e. Using the procedures in *d* above, fold the remainder of the right gore group, placing lines 33 through 64 in the right slot of the line separator (fig. 2-103).

f. While holding line 32 in the line separator, pick up the left suspension line group (fig. 2-104) and throw the left group of gores and lines over the folded right group of gores and lines.

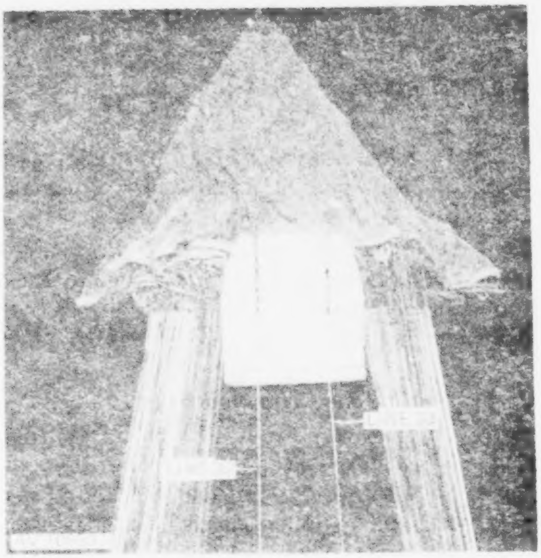


Figure 2–100. Line separator positioned between suspension line groups, G-12D 64-foot-diameter cargo parachute.

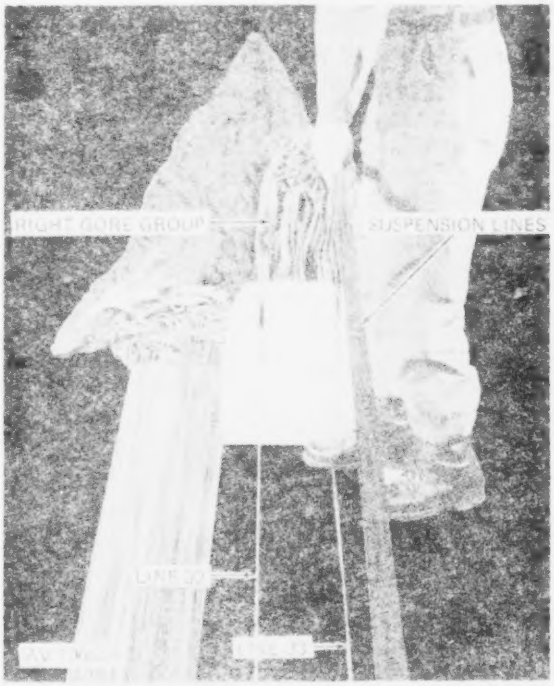


Figure 2–101. Preparing to throw right group of gores and suspension lines, G-12D 64-foot-diameter cargo parachute.

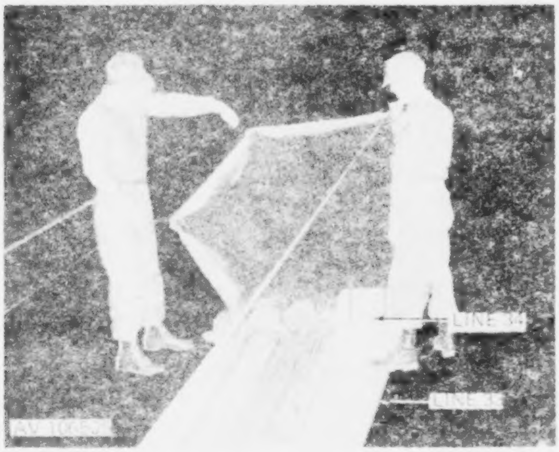


Figure 2–102. Passing right gore group suspension lines, G-12D 64-foot-diameter cargo parachute.

LEFT GORE GROUP
LINE 33
RIGHT GORE GROUP

Figure 2–104. Preparing to throw the left group of gores and suspension lines, G-12D 64-foot-diameter cargo parachute.

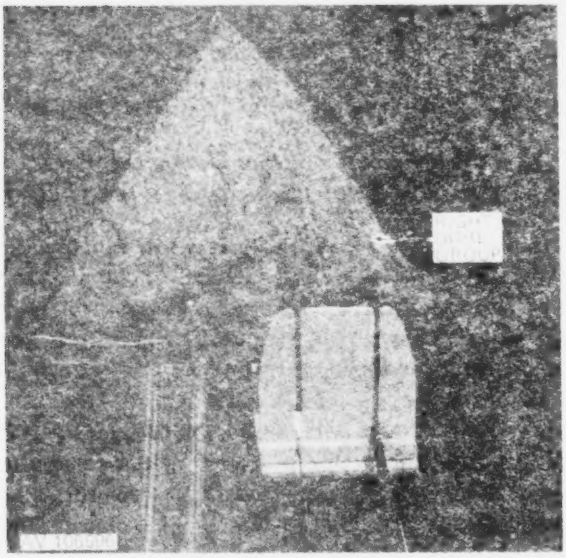


Figure 2–103. Right group of gores folded, G-12D 64-foot-diameter cargo parachute.

g. To fold the first gore of the left gore group, one man passes line 31 to a second man (fig. 2-105) who places the line on top of line 32 in the left slot of the line separator. During the process of placing line 31 in the line separator, insure the gore between lines 31 and 32 deflates and lies flat in a folded manner.

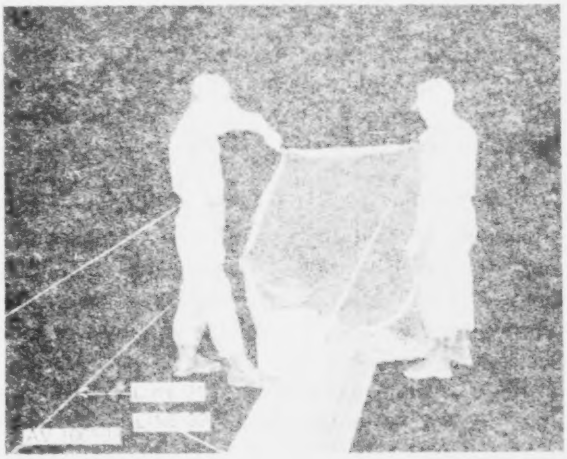


Figure 2–105. Passing the left gore group suspension lines, G-12D 64-foot diameter cargo parachute.

h. Using the procedures in *g* above, fold the remainder of the left gore group until all the suspension lines of the left group are in the left slot of the line separator (fig. 2-106).

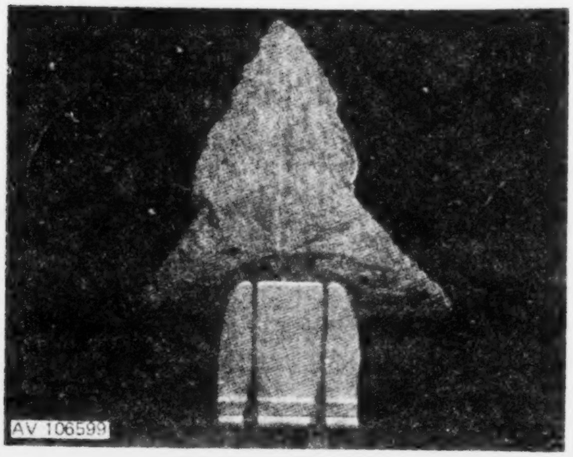


Figure 2–106. Gore folding completed, G-12D 64-foot-diameter cargo parachute.

2–44. Tieing the Canopy and Suspension Lines

Using one turn single, ticket No. 3 cotton thread, make the following ties on the canopy and the suspension lines. Secure each tie with a surgeon's knot and locking knot.

a. Make the canopy ties beginning 5 feet above the skirt reinforcement (lower lateral band) and at 5-foot intervals along the remaining canopy length (fig. 2-107). Release tension and remove tension devices after the canopy ties have been completed.

b. At a point 5 feet below the skirt reinforcement (lower lateral band), tie each group of suspension lines separately.

c. Tie both suspension line groups together beginning at a point 10 feet below the skirt reinforcement (lower lateral band) and at 10-foot intervals along the remaining length of the suspension lines (fig. 2-108), with the last tie being made at a point 1 foot above the connector link assemblies.

2–45. Tieing the Connector Link Assemblies

a. Check the risers and connector link assemblies to insure proper arrangement (fig. 2-109).

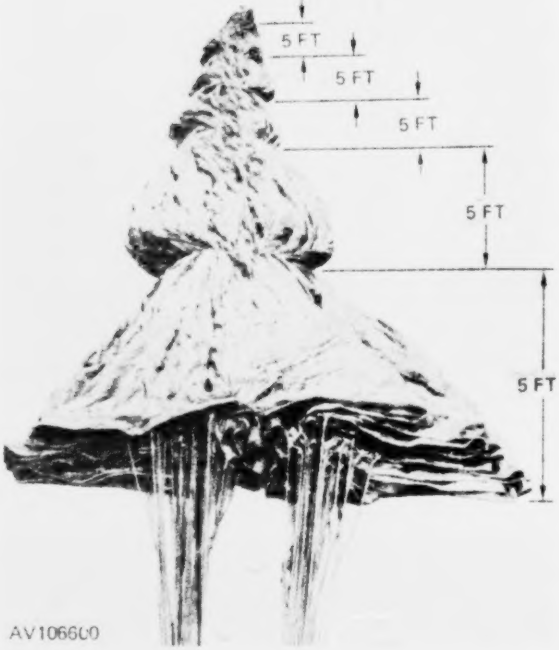


Figure 2–107. Canopy ties completed, G-12D 64-foot-diameter cargo parachute.

b. Cut a 24-inch length of 1/4-inch-wide, type I cotton webbing and thread one end of the webbing length down through one group of connector links and up through the opposite group of connector links.

c. Pull the two connector link groups together with the webbing length ends and secure the webbing ends on top of the connector links with a surgeon's knot and locking knot (fig. 2-110). Trim tie ends to 2 inches.

2–46. Installing Canopy Breakcord

a. Remove the canopy bridle loop from the stationary post.

b. Position the deployment bag at the canopy vent.

c. With the suspension line cover flap down, pass the canopy bridle loop through the deployment bag from the bag open end, and through the vent line hole located in the bag closed end. Allow 8 inches of the bridle loop to extend from the vent line hole.

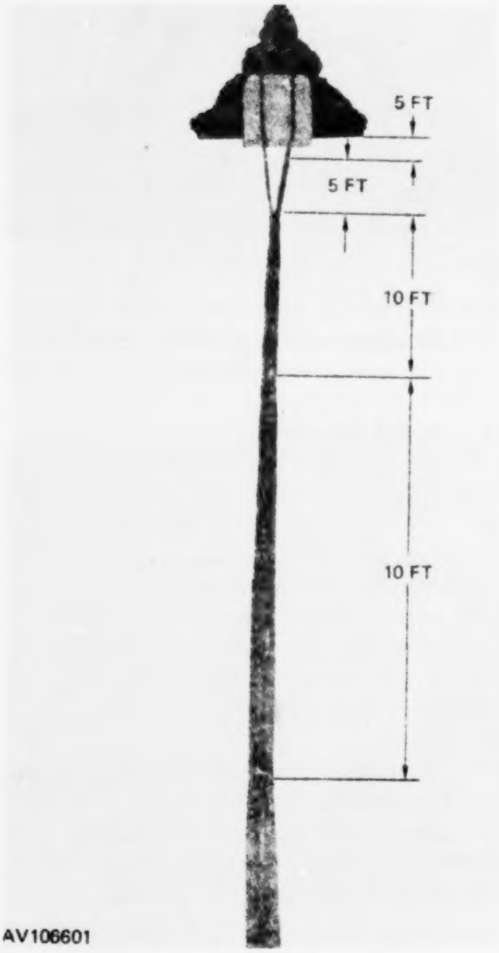


Figure 2–108. Suspension line ties, G-12D 64-foot-diameter cargo parachute.

d. Check the deployment bag bridle assembly to insure that the straps are properly arranged and not twisted.

e. Cut an 18-inch length of type III nylon cord for use as the canopy breakcord.

f. Pass one end of the cord length through the canopy bridle loop and through the breakcord attaching loop of the deployment bag bridle assembly (fig. 2-111). Secure the cord ends with a surgeon's knot and a locking knot (fig. 2-112). Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

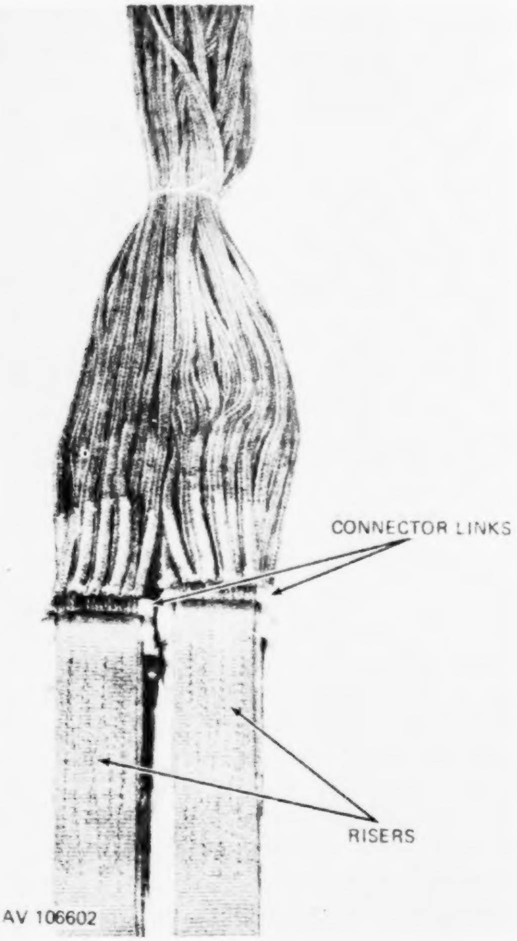


Figure 2–109. Risers and connector link assemblies in proper arrangement, G-12D 64-foot-diameter cargo parachute.

NOTE

If required, a deployment bag retaining strap (60-inch-long connector strap) may be substituted for a breakcord as outlined in TM 10-500-1/TO 13C7-1-11.

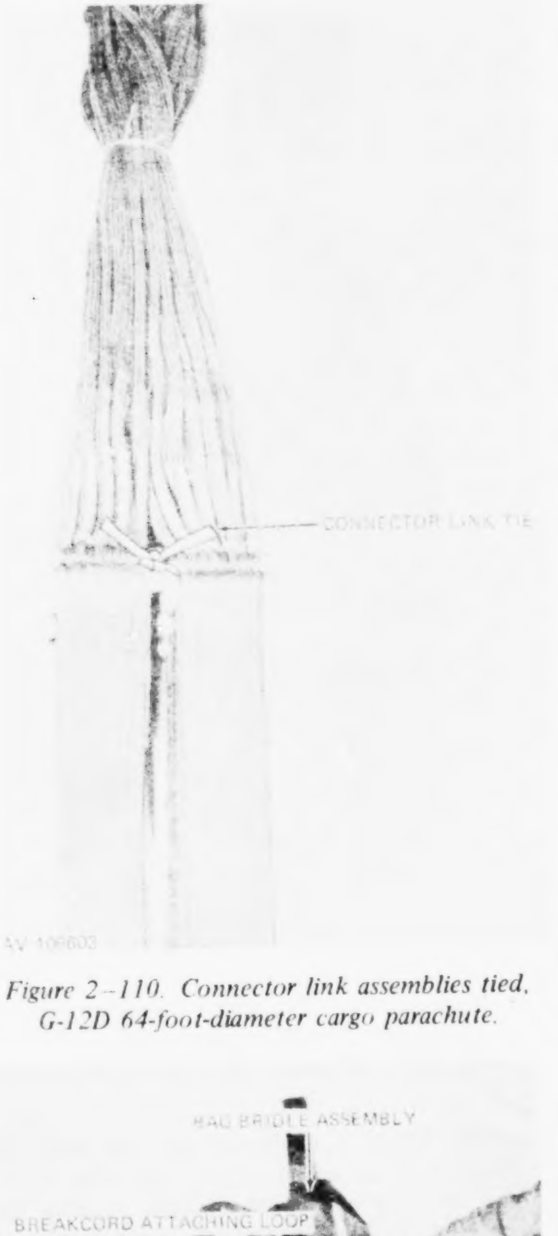


Figure 2–110. Connector link assemblies tied, G-12D 64-foot-diameter cargo parachute.

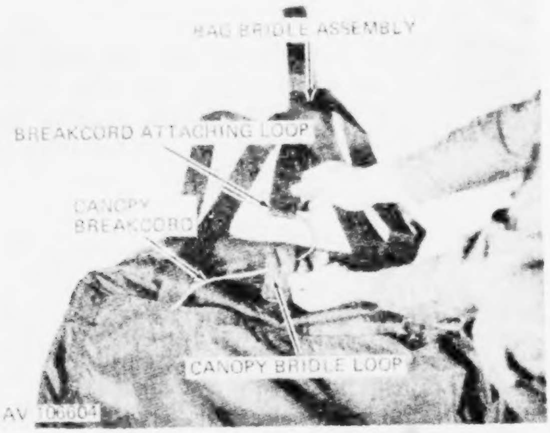


Figure 2–111. Installing canopy breakcord tie, G-12D 64-foot-diameter cargo parachute.

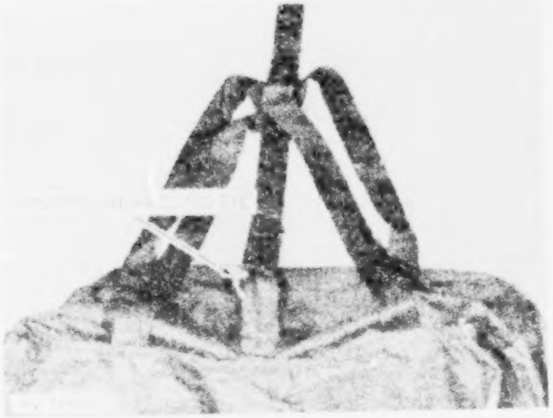


Figure 2–112. Canopy breakcord tie completed, G-12D 64-foot-diameter cargo parachute.

2–47. Stowing the Canopy

a. Two men, positioned at the top of the canopy, will raise the open end of the deployment bag up and hold the bag erect. In addition, one or both individuals should hold the canopy material to the bag to prevent the canopy vent from being withdrawn through the bag vent line hole while the canopy is being picked up from the packing surface.

b. A third man shall move to a point located a reasonable distance below the canopy top, pick up the canopy from the packing surface and S-fold the canopy material into the deployment bag (fig. 2-113).

c. Continue stowing the canopy using procedures in *b* above until only 2 feet of the canopy remains out of the deployment bag.

d. At a point immediately below the skirt reinforcement (lower lateral band), grasp both groups of suspension lines with the left hand. At a point 2 feet below the skirt reinforcement (lower lateral band), grasp both groups of suspension lines with the right hand.

e. Push the canopy skirt and 18 inches of suspension line length into the bag (fig. 2-114). **Insure the hesitator tab, if present, is located in the bag and all canopy folds are neat.**

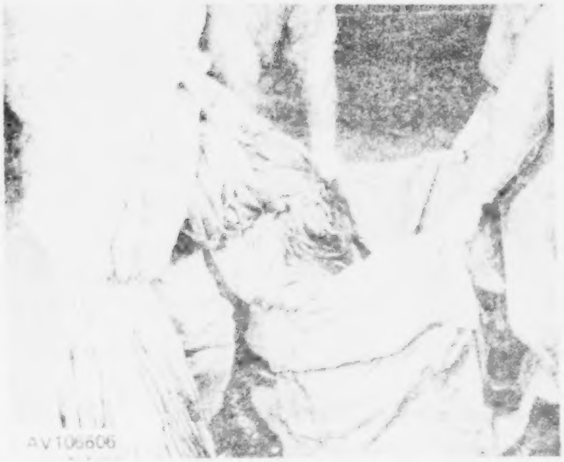


Figure 2–113. Stowing the canopy in deployment bag, G-12D 64-foot-diameter cargo parachute.

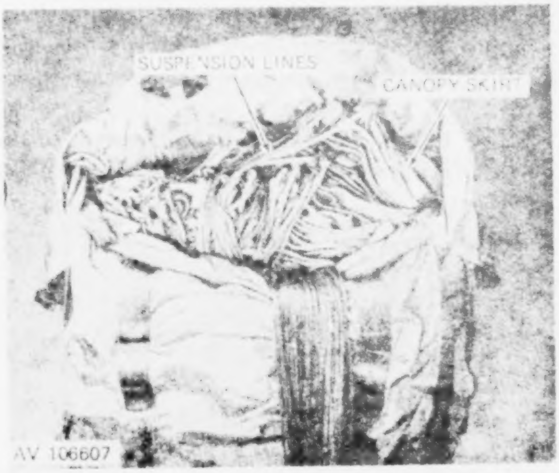

SUSPENSION LINES
CANOPY SKIRT
AV 106607

Figure 2–114. Canopy stowing completed, G-12D 64-foot-diameter cargo parachute.

2–48. Stowing the Suspension Lines and Risers

a. Fold the locking stow flap and the locking slot flap over the stowed canopy and insert the locking stow loops through the respective locking slots (fig. 2-115).

b. Cut a 36-inch length of 1/2-inch-wide tubular nylon webbing, or equivalent, for use as a packing aid. Double the webbing length and make an overhand knot in the alined webbing ends.

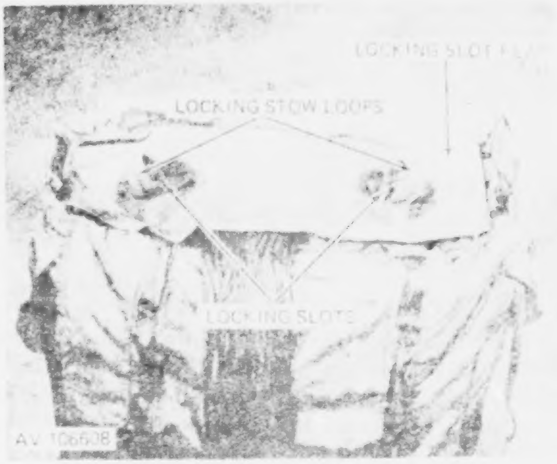

LOCKING SLOT FLAP
LOCKING STOW LOOPS
LOCKING SLOTS
AV 106608

Figure 2–115. Locking loops inserted through locking slots, G-12D 64-foot-diameter cargo parachute.

c. Using the doubled webbing, encircle the suspension lines and make a half-hitch in the webbing at a point 15 inches from the closed flaps of the bag. Thread the doubled webbing length knotted end through the right locking stow loop and make the first locking stow by pulling the webbing and suspension lines through the locking stow loop (fig. 2-116) until a 3-inch loop is formed in the suspension lines beyond the locking stow loop. Remove the packing aid.

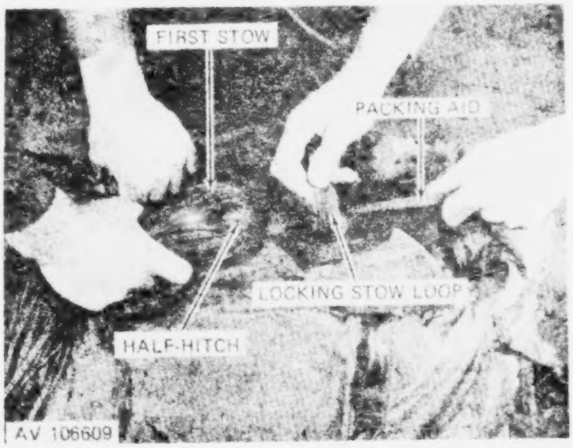

FIRST STOW
PACKING AID
LOCKING STOW LOOP
HALF-HITCH
AV 106609

Figure 2–116. Making the first locking stow, G-12D 64-foot-diameter cargo parachute.

d. Using the webbing length packing aid and the procedures in *c* above, make the second locking stow in the left locking stow loop (fig. 2-117).

e. Lay the deployment bag flat on the floor and expose the suspension line retaining straps by folding the suspension line stowage flap back over the top panel.

f. Temporarily secure the folded suspension line stowage flap at the bridle end of the bag with the two adjacent cluster tie webbing straps. Pass each webbing strap through the end loop of the adjacent suspension line retaining strap and make a slip knot in the webbing strap.

g. Cut a minimum of twenty-four 18-inch lengths of 1/4-inch-wide, type I cotton webbing for use as suspension line ties.

h. Beginning with the suspension line retaining strap loops at the top of the bag, secure three lengths of tie webbing to each loop on the line stowage panel by making a slip loop in each webbing length (fig. 2-118). Insure the ends of each webbing length are alined and positioned toward the respective outer edges of the bag.

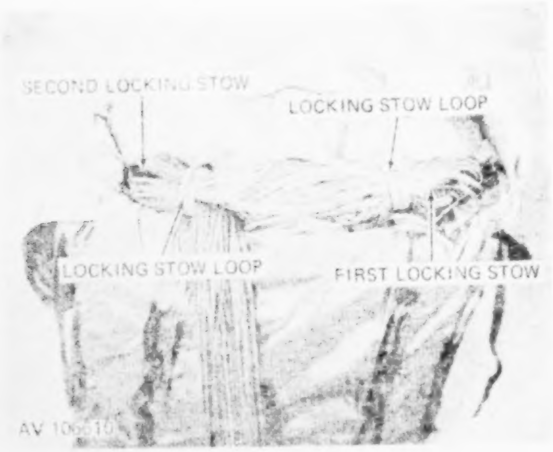

SECOND LOCKING STOW
LOCKING STOW LOOP
LOCKING STOW LOOP
FIRST LOCKING STOW
AV 106510

Figure 2–117. Locking stows completed, G-12D 64-foot-diameter cargo parachute.

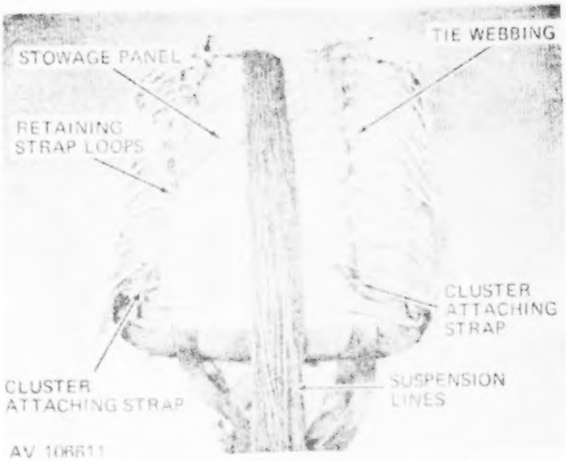

STOWAGE PANEL
TIE WEBBING
RETAINING STRAP LOOPS
CLUSTER ATTACHING STRAP
CLUSTER ATTACHING STRAP
SUSPENSION LINES
AV 106811

Figure 2–118. Suspension line tie webbing positioned on suspension line retaining strap loops, G-12D 64-foot-diameter cargo parachute.

i. Extend the suspension line length from the left locking stow to the first webbing loop at the upper right corner of the line stowage panel and form the first suspension line stow by making an S-fold in the suspension lines at the edge of the line stowage panel. Secure the formed suspension line stow with the first length of tie webbing, making a surgeon's knot and a locking knot (fig. 2-119).

j. Extend the suspension line length to the first webbing loop at the lower left corner of th

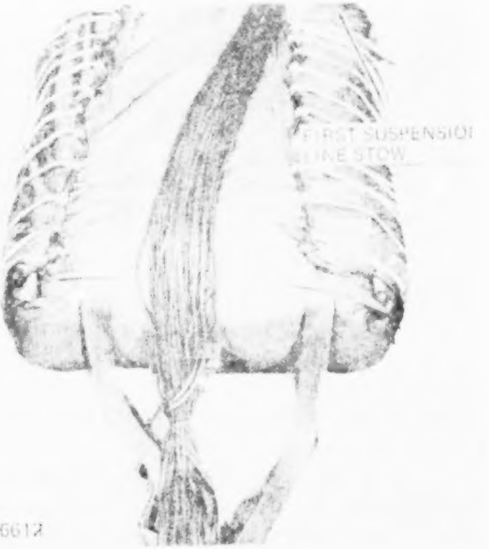

FIRST SUSPENSIO
LINE STOW
AV 106612

Figure 2–119. First suspension line stow completed, G-12D 64-foot-diameter cargo parachute.

line stowage panel. Form and secure the second suspension line stow as outlined in *i* above (fig. 2-120). Continue stowing and securing the remaining suspension line length alternately from right to left. Insure each stow is alined with the line stowage panel edge.

k. Stow the risers to a point 18 inches om the suspension clevis (fig. 2-121), using rocedures in *j* above. However, an S-fold is not made in the last stow. Trim all tie ends to 2 inches.

2–49. Closing the Deployment Bag

Closing the deployment bag requires an individual to be located on each side of the bag to perform the following:

a. Roll the suspension line stowage panel as tight as possible toward the bag open end.

b. Insert the line stowage panel roll between the bag closing flaps and into the open end of the bag (fig. 2-122).

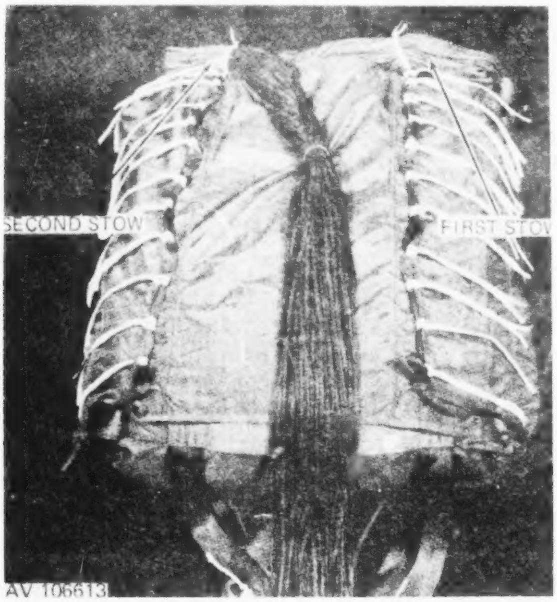


Figure 2–120. Second suspension line stow completed, G-12D 64-foot-diameter cargo parachute.

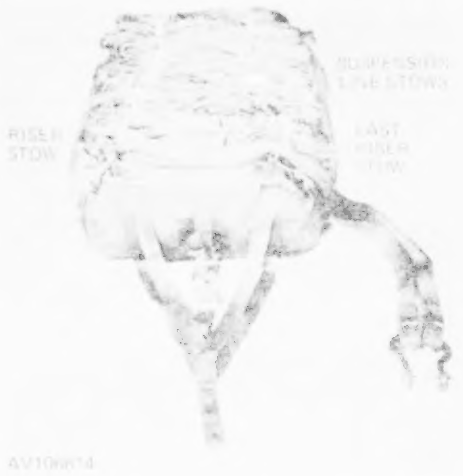


Figure 2–121. Suspension line and riser stowage completed, G-12D 64-foot diameter cargo parachute.

c. Fold the bag closing flaps over the positioned line stowage panel roll and insure the running end of the risers and the suspension clevis remain free and above the flaps.

WARNING

The bag closing ties will not be knotted until the risers and clevis have been positioned over the center of the flap closure.

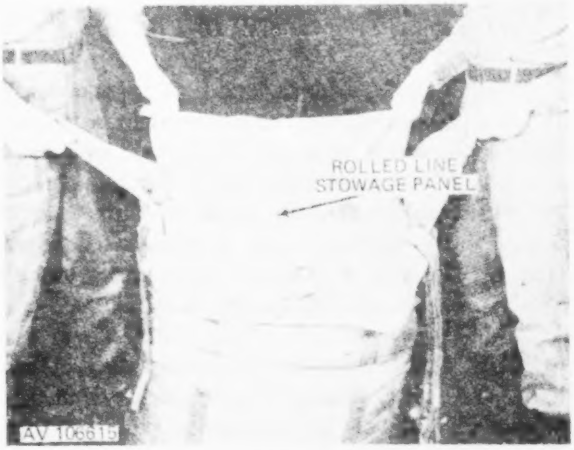
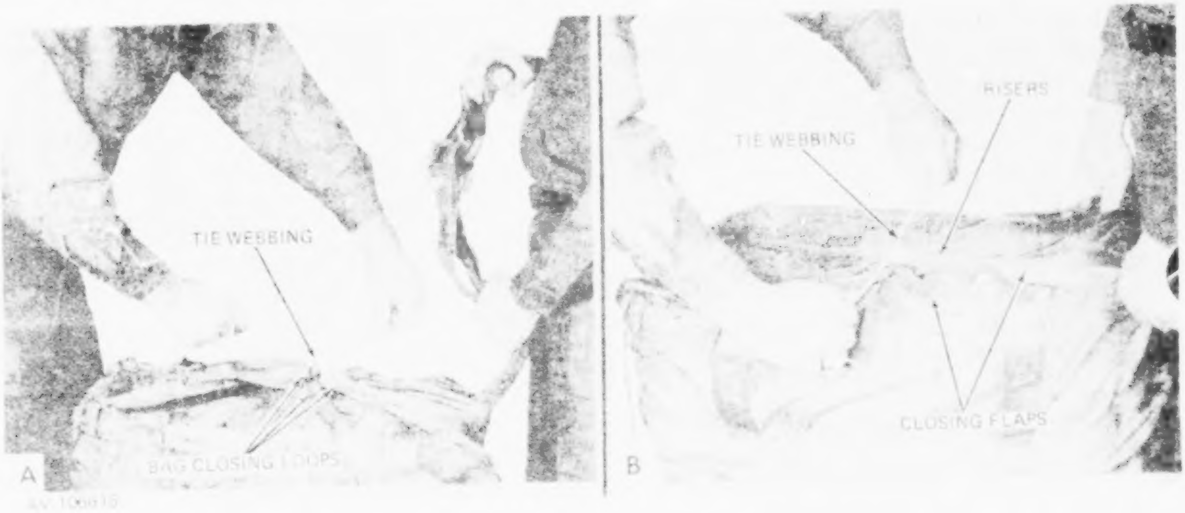


Figure 2–122. Suspension line stowage panel rolled and inserted into bag open end, G-12D 64-foot-diameter cargo parachute.



A. Tie webbing installed on closing flaps.
B. Securing risers on top of closing flaps.

Figure 2–123. Making primary bag closing tie, G-12D 64-foot-diameter cargo parachute.

d. Cut a 24-inch length of 1/4-inch-wide, type I cotton webbing and pass one end of the webbing length through the closing loop on each of the four bag closing flaps. Pull the webbing ends to draw the closing loops together (A, fig. 2-123).

e. Position the extended risers over the center of the flap closure and bring the webbing ends around the risers (B). Secure the webbing ends on top of the risers with a suregon's knot and a locking knot. Trim tie ends to 2 inches.

f. Using a 24-inch length of 1/4-inch-wide, type I cotton webbing, secure the right secondary bag closing loops with one turn single by passing one end of the webbing through one loop, under the secured risers, and through the opposite loop. Secure both webbing ends on top of the risers (fig. 2-124) with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

g. Secure the left secondary bag closing loops and the positioned suspension clevis using a 48-inch length of 1/4-inch-wide, type I cotton webbing. Make the tie with one turn triple using the procedures in *f* above (fig. 2-125). Insure the closing flaps are tucked into the bag neatly and trim tie ends to 2 inches (fig. 2-126).

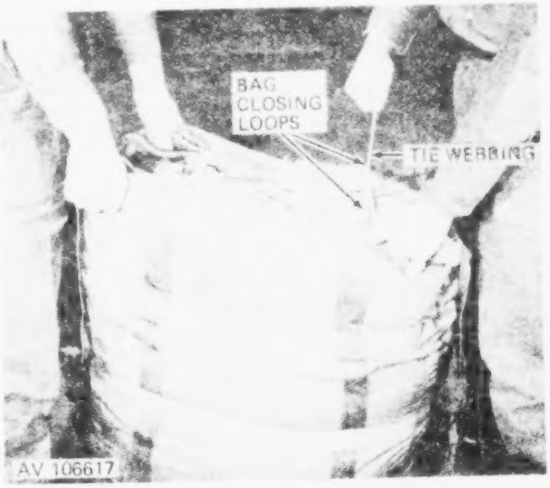


Figure 2–124. Securing the right secondary bag closing loops, G-12D 64-foot-diameter cargo parachute.

h. Remove the Army Parachute Log Record (DA Form 10-42 or 3912) from the parachute inspection data pocket (log record pocket) on the canopy bridle loop and record the pack data as prescribed in TM 10-1670-201-23/TO 13C-1-41. Return the record to the pocket upon completion of entries.

2–50. Attaching the Pilot Parachute

When a G-12D is to be used in airdrop operations which requires the parachute to be deployed by static line, a 68-inch-diameter pilot parachute shall be attached as prescribed in the applicable equipment rigging publications.

Figure 2–125. Securing the left secondary bag closing loops and suspension clevis, G-12D 64-foot-diameter cargo parachute.

Figure 2–126. Packing completed, G-12D 64-foot-diameter cargo parachute.

Section VII. THE G-12C 64-FOOT-DIAMETER CARGO PARACHUTE

2–51. General

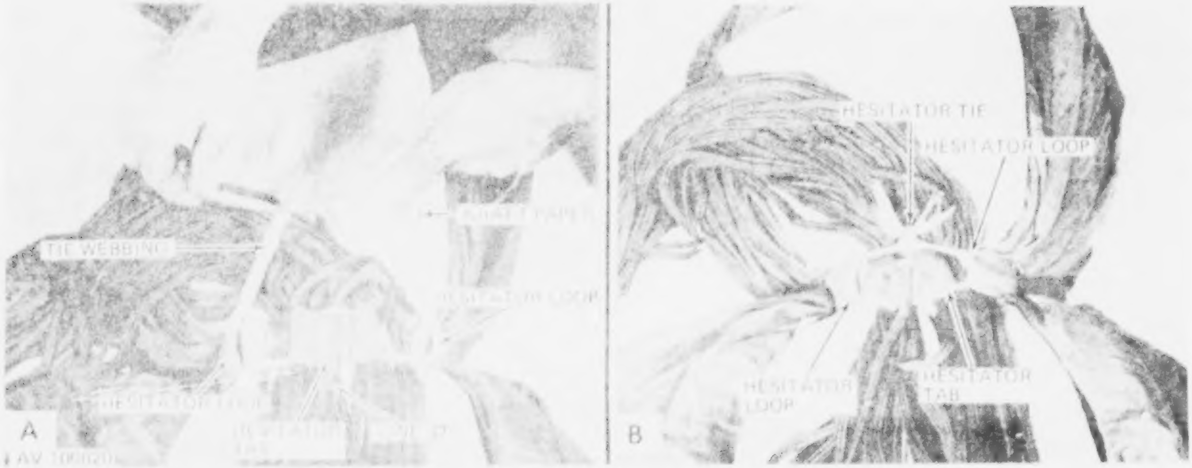
The packing procedures outlined in paragraphs 2-40 through 2-44, in conjunction with the specifics in this section, are required to complete packing of a G-12C 64-foot-diameter cargo parachute.

2–52. Tieing the Skirt Hesitator

a. Center a 20-inch-square piece of doubled kraft paper on top of the folded canopy with the bottom edge of the paper located at a point 8 inches above the skirt reinforcement (lower lateral band).

b. Grasp both groups of suspension lines at a point 2 feet below the skirt reinforcement (lower lateral band) and fold the lines back on top of the folded canopy and kraft paper.

c. Locate the hesitator tab on suspension line 32 and arrange the tab in a manner which will allow the tab to lie under line 32 and over the top of all other lines.



A. Installing tie webbing.
B. The skirt hesitator tie completed.

Figure 2–127. Making the skirt hesitator tie, G-12C 64-foot-diameter cargo parachute.

d. Locate the skirt hesitator on radial seam 32 and extend each of the hesitator loops up the side of the canopy and over the kraft paper.

e. Make the skirt hesitator tie with one turn triple by passing a 72-inch length of 1/4-inch-wide, type I cotton webbing down through the left hesitator loop, up through the left tab loop, over the suspension lines, down through the right tab loop, and up through the right hesitator loop (A, fig. 2-127). Secure the webbing ends over the suspension lines with a surgeon's knot and a locking knot (B). Trim tie ends to 2 inches.

2–53. Stowing the Suspension Lines

a. Remove the canopy bridle loop from the stationary post.

b. Invert the pack to facilitate stowage of the suspension lines.

c. Position the inverted pack under the suspension lines at the connector link assemblies with the web loops of the suspension line retaining straps at a right angle to the suspension lines and the connector links located on the pack lower left corner.

d. Cut a 24-inch length of 1/4-inch-wide, type I cotton webbing and thread one end down through the left group of connector links, under the first web loops of the suspension line retaining straps, and up through the right group of connector links.

e. Pull the two connector link groups together with the webbing length ends and secure the webbing ends with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

f. Cut a minimum of fifteen 18-inch lengths of 1/4-inch-wide, type I cotton webbing for use as suspension line stow ties. Attach eight webbing lengths at equal intervals along the top row of web loops and seven webbing lengths at equal intervals along the bottom row of web loops (fig. 2-128). Each webbing length will be attached to the web loops with a half-hitch.

g. Beginning on the pack upper left corner, S-fold the suspension lines to form the first suspension line stow loop and allow the formed loop to extend 2 inches beyond the pack bottom. Secure the loop, using the tie material positioned in *f* above, with a surgeon's knot and a locking knot (fig. 2-129).

h. Continue S-folding the suspension lines alternately from top to bottom to a point 24 inches from the canopy skirt reinforcement (lower lateral band) and secure each line stow loop using procedures in *g* above. Trim all tie ends to 2 inches.

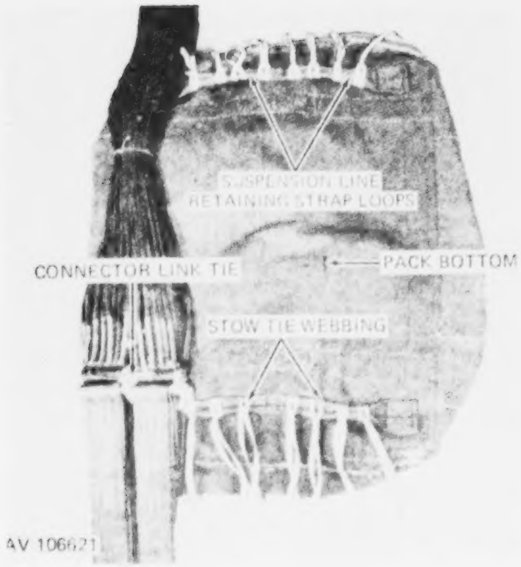

SUSPENSION LINE RETAINING STRAP LOOPS
CONNECTOR LINK TIE
PACK BOTTOM
STOW TIE WEBBING
AV 106621

Figure 2–128. Connector link assemblies secured and suspension line stow tie webbing installed, G-12C 64-foot-diameter cargo parachute.

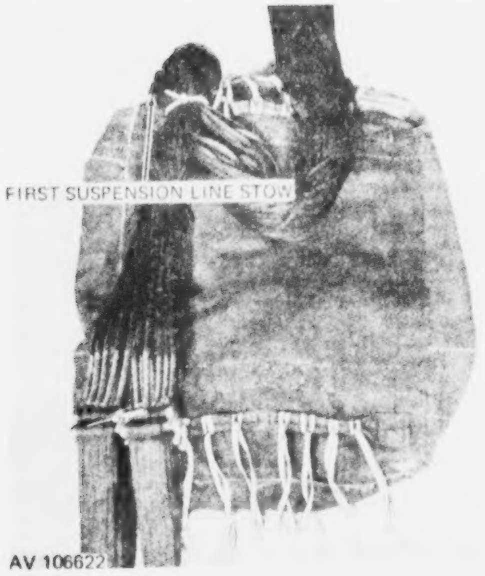

FIRST SUSPENSION LINE STOW
AV 106622

Figure 2–129. First suspension line stow completed, G-12C 64-foot-diameter cargo parachute.

i. Bring the pack sides up to a halfway point and allow the risers and suspension clevis to extend from the pack lower left corner (fig. 2-130).

2–54. Stowing the Canopy

a. At a point immediately below the canopy skirt hesitator, raise the canopy from the packing surface and place the canopy skirt into the pack on top of the stowed suspension lines (fig. 2-131).

b. Completely unroll the pack sides and allow the risers and suspension clevis to remain extended from the lower left corner of the pack.

c. Accordion-fold the canopy into the pack (fig. 2-132) and tuck the vent lines and the wrapped portion of the bridle loop under the last fold.

d. Remove the Army Parachute Log Record (DA Form 10-42 or 3912) from the parachute inspection data pocket (log record pocket) on the canopy bridle loop and record the pack data as prescribed in TM 10-1670-201-23/TO 13C-1-41. Upon completion of the entries, return the record to the pocket.

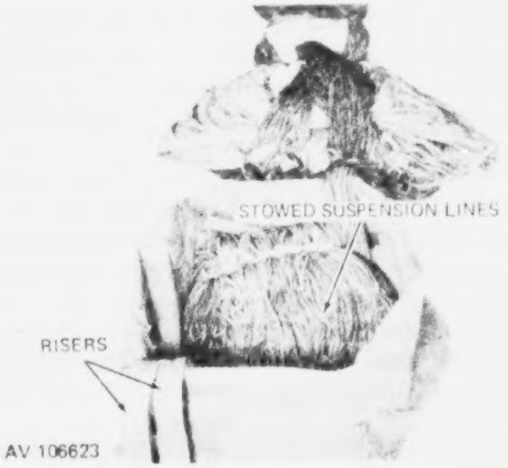

STOWED SUSPENSION LINES
RISERS
AV 106623

Figure 2–130. Suspension line stowing completed, G-12C 64-foot-diameter cargo parachute.

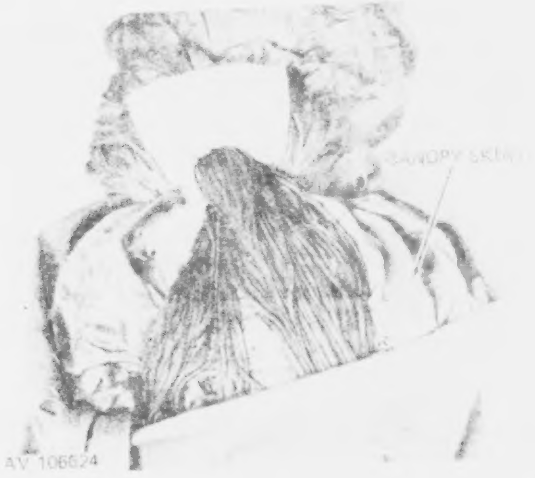


Figure 2–131. Canopy skirt positioned in pack, G-12C 64-foot-diameter cargo parachute.

2–55. Attaching the 68-Inch-Diameter Pilot Parachute

a. Disassemble the 68-inch-diameter pilot parachute deployment line connector link assembly.

b. Insert the free connector link L-bar through the G-12C canopy bridle loop and reassemble the link assembly.

2–56. Closing the Pack and Securing the Pilot Parachute Bag

a. Fold the four pack closing flaps over the stowed canopy assembly and place the pilot parachute bag on the top center of the pack.

b. Cut a 36-inch length of 1/4-inch-wide, type I cotton webbing and thread one end through three of the pack closing loops, through the deployment line connector link assembly, through the fourth pack closing loop, and draw the webbing tight. Secure the webbing ends with a surgeon's knot and a locking knot (fig. 2-133). Trim tie ends to 2 inches.

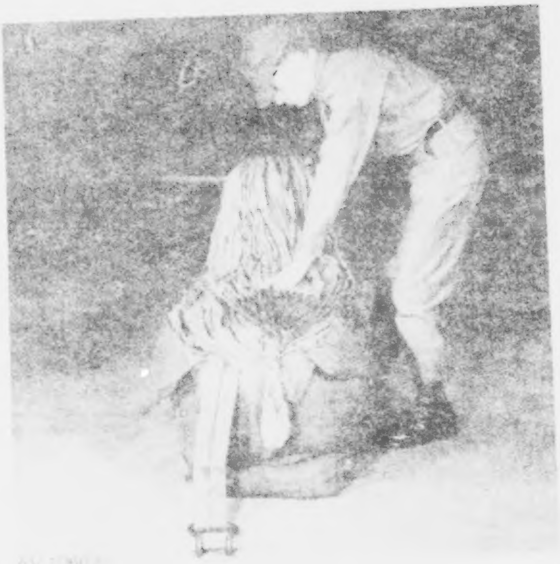


Figure 2–132. Making the last canopy stow, G-12C 64-foot-diameter cargo parachute.

c. Secure the pilot parachute bag (fig. 2-134) by passing a single length of ticket No. 5 cotton thread through each of the four bag tiedown loops and through the nearest pack closing loop or main strap loop. Secure each tie length with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

d. S-fold the static line length and secure each end of the folds to two main strap loops on one side of the pack using rubber retainer band

e. Temporarily secure the 3/4-inch suspension clevis to a main strap loop on one side of the pack using a 12-inch length of 1/4-inch-wide, type I cotton webbing (fig. 2-135).

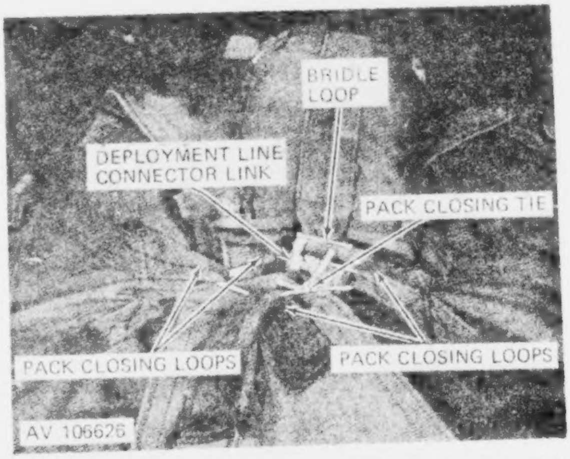


Figure 2–133. Pack closed and secured, G-12C 64-foot-diameter cargo parachute.

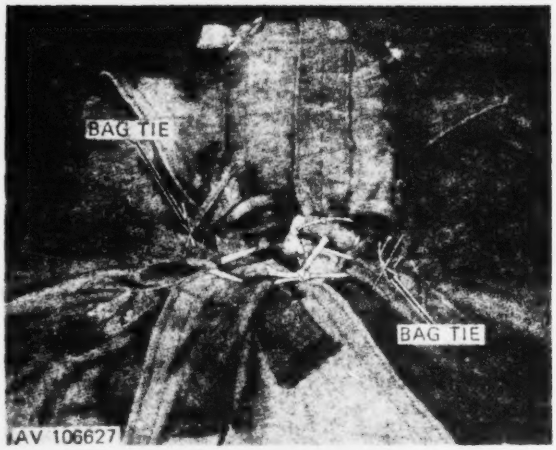


Figure 2–134. First two ties securing pilot parachute bag to pack completed, G-12C 64-foot-diameter cargo parachute.

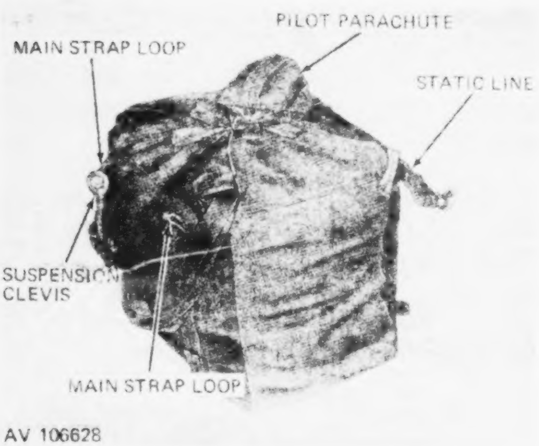


Figure 2–135. Packing completed, G-12C 64-foot-diameter cargo parachute.

Section VIII. THE 68-INCH-DIAMETER PILOT PARACHUTE

2–57. General

The 68-inch-diameter pilot parachute is used with the G-12C cargo parachute and may also be used with the G-12D cargo parachute. The pilot parachute will be packed on a packing table and may be packed in a breakaway or nonbreakaway configuration, as required. To attach a packed pilot parachute to a 64-foot-diameter cargo parachute, refer to paragraph 2-55 or the TM 10-500 series publications, as applicable.

2–58. Attaching the Static Line

a. Breakaway Static Line.

(1) Partially invert the pilot parachute deployment bag by folding the sides back to expose the inner loop.

(2) Pass the small loop of the bridle line through the deployment bag inner loop. Further pass the large loop on the opposite end of the bridle line through the small loop to form a slip loop around the inner loop. Draw the slip loop tight.

(3) Pass the bridle line large loop through the pilot parachute breakcord attaching loop. Further pass the pilot parachute deployment bag and static line through the large loop to form a slip loop around the pilot parachute breadcord attaching loop.

b. Nonbreakaway Static Line.

(1) Perform procedures outlined in *a* (1) above and position the inner loop immediately above the pilot parachute breakcord attaching loop.

(2) Using a single length of ticket No. 5 cotton thread, pass one end of the thread through the pilot parachute breakcord attaching loop until the thread center is reached.

(3) Working from opposite directions, pass each end of the thread length through the inner loop and draw the thread tight.

(4) Secure the thread ends on top of the inner loop with a surgeon's knot and a locking knot. Trim thread ends to 2 inches.

2–59. Folding the Canopy

a. Make four gore folds to the right of the suspension lines, four gore folds to the left the suspension lines, and dress the gores.

b. Fold the right gore group over the canopy center and fold the left gore group over the right gore group (fig. 2-136).

2–60. Attaching the Deployment Line

a. Disassemble the pilot parachute suspension line connector link assembly.

b. Insert the free connector link L-bar through the loop on one end of the 111-inch-long deployment line and reassemble the link assembly.

2–61. Stowing the Canopy, Suspension Lines, and Deployment Line

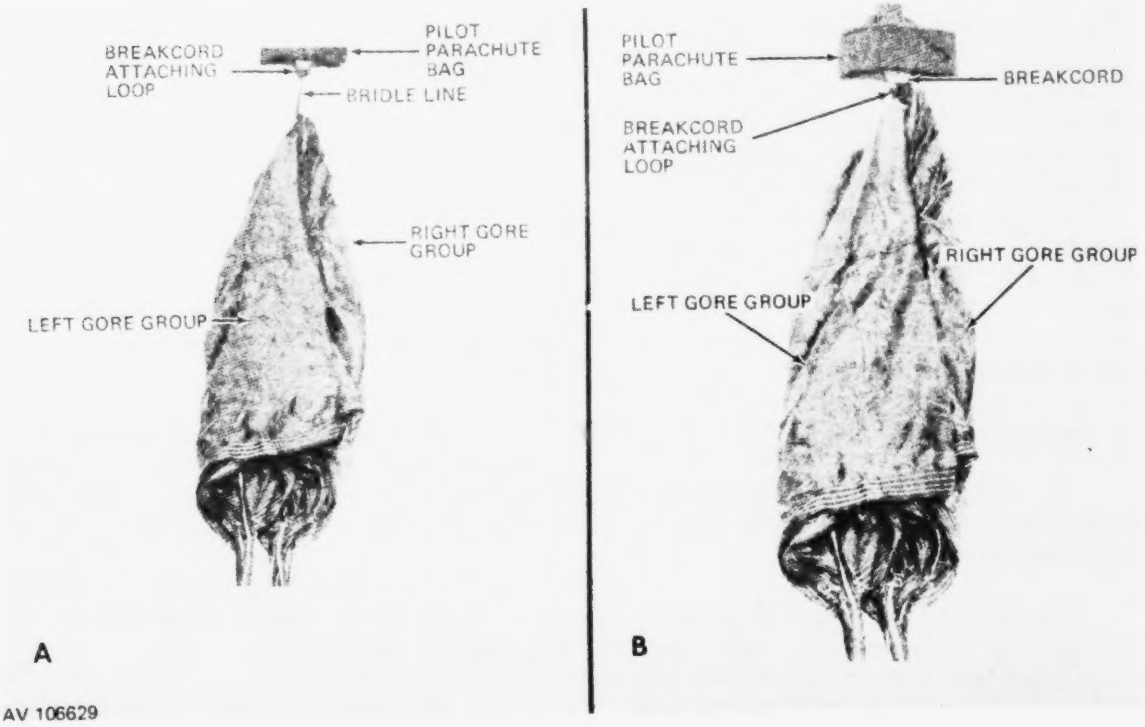
a. Remove bag inversion made in paragraph 2-58 *a*(1) above.

b. Working from the crown to the skirt, S-fold the canopy into the bag (fig. 2-137).

c. S-fold the suspension lines to the width of the bag. Secure the folded lines in the center with a rubber retainer band (fig. 2-138).

d. Insert the folded suspension lines into the pilot parachute bag.

e. S-fold the deployment line length into the pilot parachute bag and position the deployment line connector link at the lower center of the bag open end.


BREAKCORD ATTACHING LOOP
PILOT PARACHUTE BAG
BRIDLE LINE
RIGHT GORE GROUP
LEFT GORE GROUP
A
PILOT PARACHUTE BAG
BREAKCORD
BREAKCORD ATTACHING LOOP
RIGHT GORE GROUP
LEFT GORE GROUP
B
AV 106629

A. Breakaway static line.
B. Nonbreakaway static line.

Figure 2–136. Static line attaching and gore folding completed, 68-inch-diameter pilot parachute.

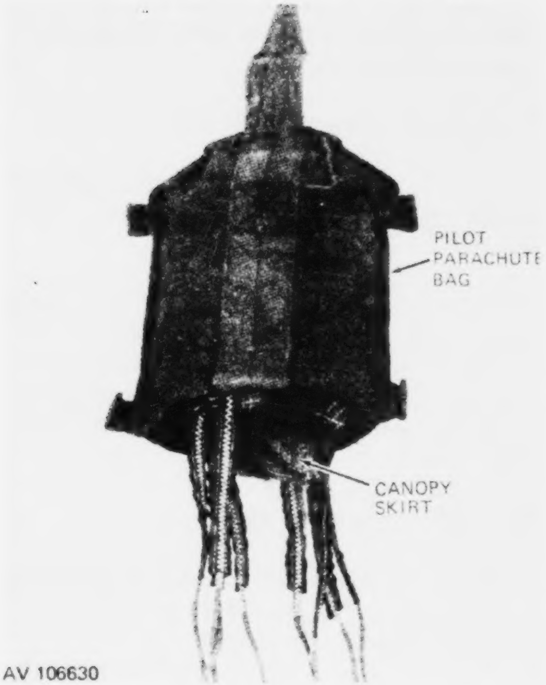

PILOT
PARACHUTE
BAG
CANOPY
SKIRT
AV 106630

Figure 2–137. Canopy stowed in bag, 68-inch-diameter pilot parachute.

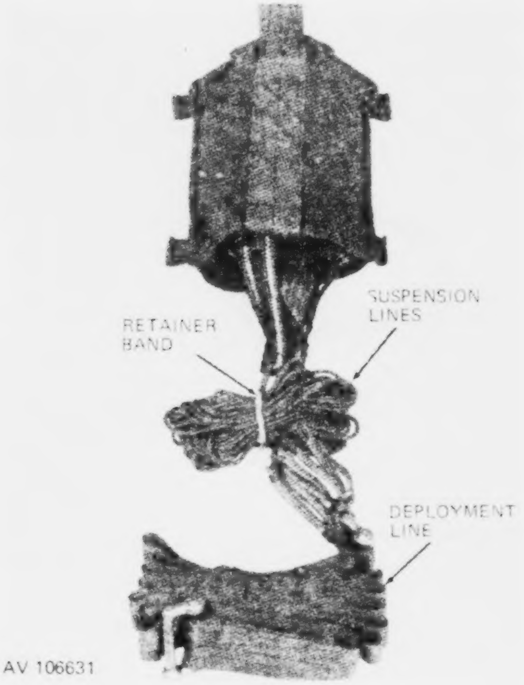

SUSPENSION
LINES
RETAINER
BAND
DEPLOYMENT
LINE
AV 106631

Figure 2–138. Suspension lines folded and secured, 68-inch-diameter pilot parachute.

2–62. Closing the Pilot Parachute Bag

Using a single length of ticket No. 5 cotton thread, pass one thread end through the top bag closing loop, through the deployment line connector link assembly, through the bottom bag closing loop, back through the deployment line link, and through the opposite side of the top bag closing loop. Pull the thread ends tight and make a tie with a surgeon's knot and a locking knot (fig. 2-139). Trim tie ends to 2 inches.

2–63. Attaching the Riser Clevis

The manner in which the riser clevis is to be attached to the static line shall depend upon whether the pilot parachute is packed for breakaway or nonbreakaway use. The clevis attachment procedures for both methods of use are as follows:

a. Breakaway Static Line.

(1) Cut a 12-inch length of type III nylon cord and remove the core threads.

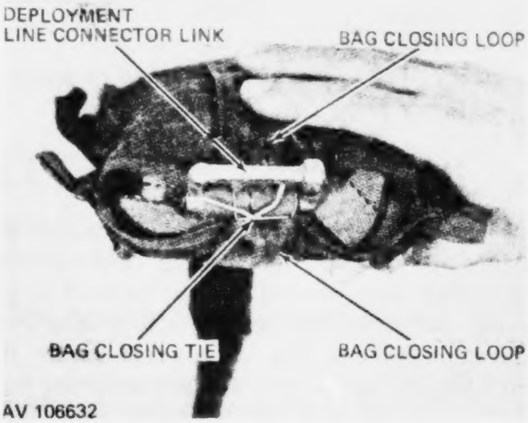

DEPLOYMENT
LINE CONNECTOR LINK
BAG CLOSING LOOP
BAG CLOSING TIE
BAG CLOSING LOOP
AV 106632

Figure 2–139. Bag closing completed, 68-inch-diameter pilot parachute.

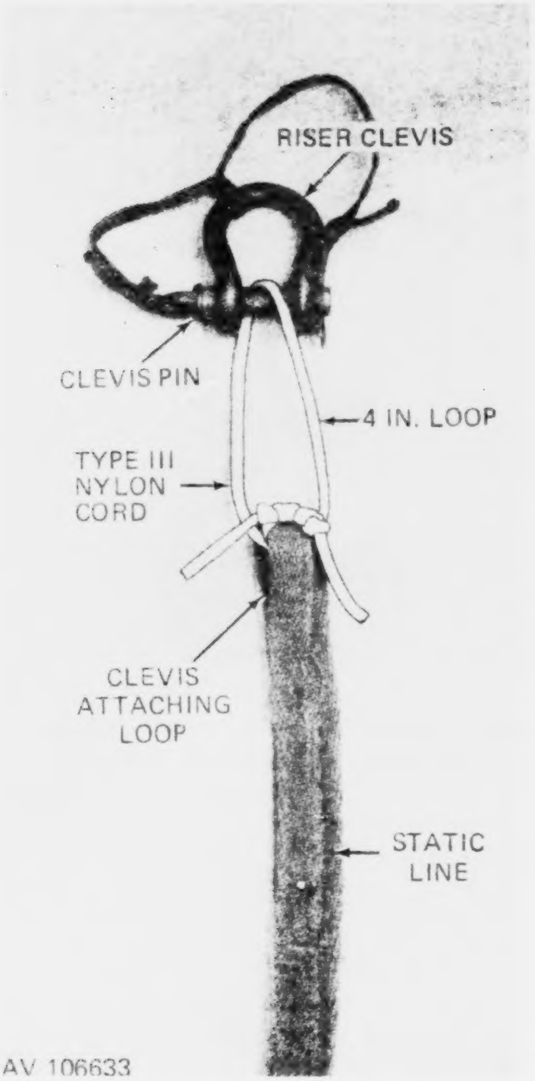

RISER CLEVIS
CLEVIS PIN
4 IN. LOOP
TYPE III NYLON CORD
CLEVIS ATTACHING LOOP
STATIC LINE
AV 106633

Figure 2–140. Riser clevis attached to breakaway static line, 68-inch-diameter pilot parachute.

(2) Center the cord length around the clevis pin and insure the running cord ends are alined. Pass each running end of the cord length through the static line clevis attaching loop from opposite directions (fig. 2-140) and secure the cord ends on top of the static line attaching loop with a surgeon's knot and a locking knot. Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

b. Nonbreakaway Static Line.

(1) Remove the cotter pin from the clevis pin and the clevis pin from the body of the clevis.

(2) Position the static line clevis attaching loop between the clevis bottom ends and reinsert the clevis pin into the clevis body, passing the pin through the clevis attaching loop. Reinstall the cotter pin into the end of the clevis pin (fig. 2-141).

2–64. Stowing the Static Line

S-fold the static line length in 8-inch folds and secure each end of the folded webbing with a rubber retainer band (fig. 2-142).

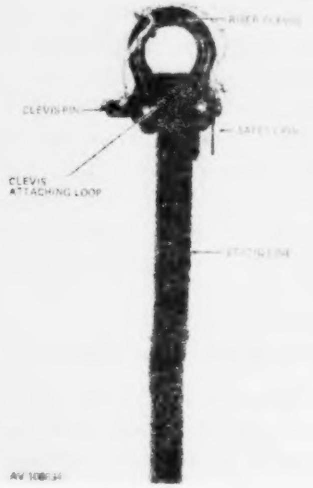

RISER CLEVIS
CLEVIS PIN
SAFETY PIN
CLEVIS ATTACHING LOOP
STATIC LINE
AV 106634

Figure 2–141. Riser clevis attached to nonbreakaway static line, 68-inch-diameter pilot parachute.

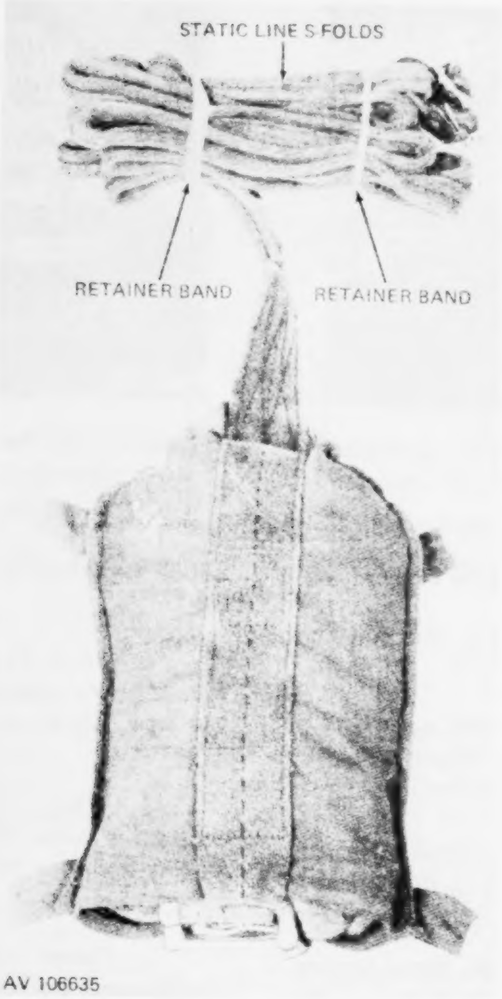


Figure 2–142. Packing completed, 68-inch-diameter pilot parachute.

Section IX. THE G-11A 100-FOOT-DIAMETER CARGO PARACHUTE

2–65. General

The G-11A 100-foot-diameter cargo parachute is packed by a three-man team in a clean working area. The area must be large enough to accommodate the 100-foot-diameter canopy assembly as outlined in Appendix D and will be equipped with a stationary post or the equivalent at each end.

2–66. Serving the Canopy Vent Lines

Serve the canopy vent lines using the procedures and materials outlined in paragraph 2-41.

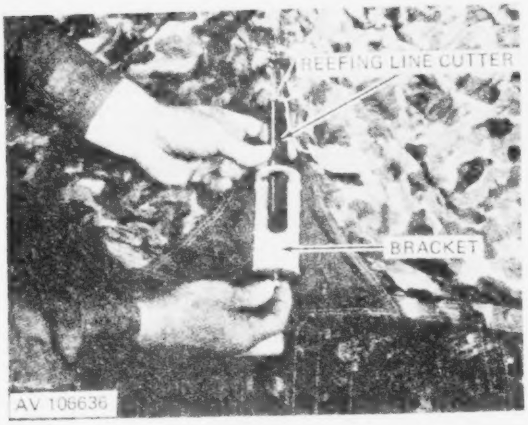


Figure 2–143. Installing the M-21 reefing line cutter in bracket, G-11A 100-foot-diameter cargo parachute.

2–67. Installing M-21 Reefing Line Cutters

Install an M-21 reefing line cutter at lines 1 and 61 as follows:

a. Insert the cutter into the upper end of the cutter bracket (fig. 2-143). Insure the cutter arming cable faces toward the canopy vent.

b. Aline the screw that protrudes from the side of the cutter with the slot in the upper end of the cutter bracket.

c. Slide the cutter into the cutter bracket until the cutter lower end is flush against the inside bottom end of the bracket.

d. Turn the cutter one-quarter turn to allow the screw, which protrudes from the cutter side, to fit into the indentation located in the center of the bracket.

e. Insert the 1/4-inch screw through the hole on the bottom of the bracket into the threaded hole in the bottom end of the cutter and tighten the screw finger-tight (fig. 2-144).

NOTE

Do not use any type of tool to tignten the reefing line cutter bottom screw.

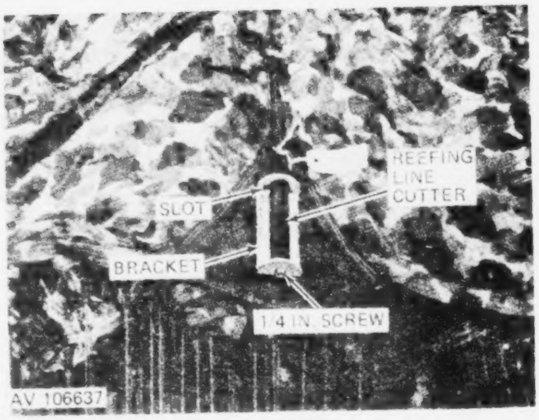


Figure 2–144. Reefing line cutter installed in bracket, G-11A 100-foot-diameter cargo parachute.

2–68. Threading the Reefing Line Cutter at Line 61

a. Cut a 22-foot length of 1/2-inch-wide tubular nylon webbing for use as a reefing line and tape 2 inches of each end.

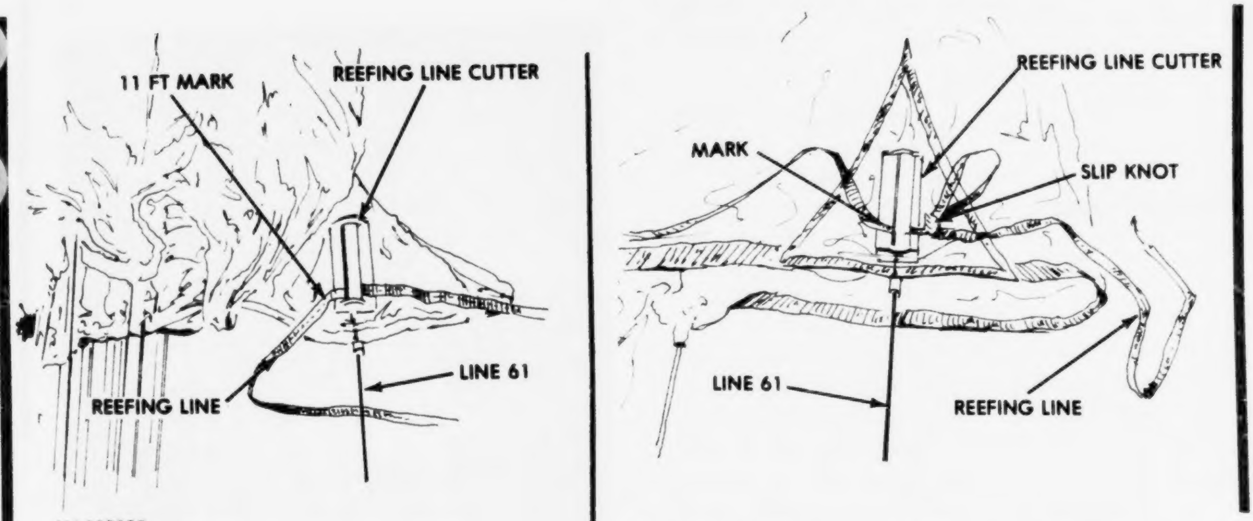
b. Using authorized marking ink of contrasting color, mark the reefing line at a point 11 feet from one end.

c. Thread one taped end of the reefing line through the hole in the reefing line cutter at line 61 and pull the reefing line through the cutter until the 11-foot mark is reached (A, fig. 2-145). Center the mark in the cutter.

d. Make a slip knot in the reefing line length immediately to the left of the reefing line cutter (B) to prevent the line from becoming uncentered during the reefing process.

2–69. Applying Tension

Using a webbing strap with a strap fastener, attach the webbing strap threaded through the connector link assemblies to a tension device and apply tension.


11 FT MARK
REEFING LINE CUTTER
LINE 61
REEFING LINE
AV 106638
REEFING LINE CUTTER
MARK
SLIP KNOT
LINE 61
REEFING LINE

A. Threading line through cutter.

B. The reefing line centered and temporarily secured.

Figure 2–145. Installing reefing line in reefing line cutter at line 61, G-11A 100-foot-diameter cargo parachute.

NOTE

A tension jack, chain hoist, power winch, or a vehicle may be used as a tension device when applying tension to a large size canopy.

2–70. Folding the Gores and Reefing the Canopy

Fold the canopy gores into two groups of 60 gores each and thread the reefing line through the canopy reefing rings as follows:

a. At a suitable point below the canopy skirt and adjacent to the skirt band (lower lateral band), position a large line separator between the two suspension line groups and insert line 60 into the left slot of the separator and line 61 into the right slot (fig. 2-146).

b. While holding line 61 in position in the line separator, pick up the right suspension line group (fig. 2-147) and throw the right group of gores and lines over the left group of gores and lines.

c. Position a large pedestal fan at a point 10 feet below the canopy skirt. Direct the fan so the airstream will partially inflate the canopy.

CAUTION

Failure to evenly distribute the reefing line between the reefing rings could result in a parachute malfunction.

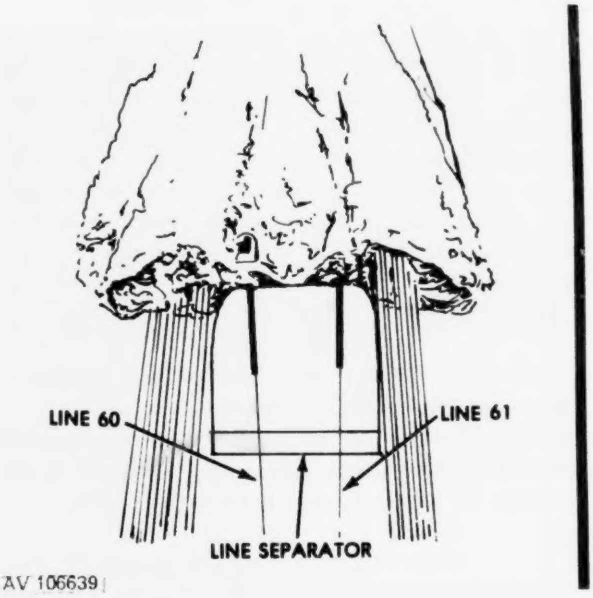

LINE 60
LINE 61
LINE SEPARATOR
AV 106639

Figure 2–146. Line separator positioned between suspension line groups, G-11A 100-foot-diameter cargo parachute.

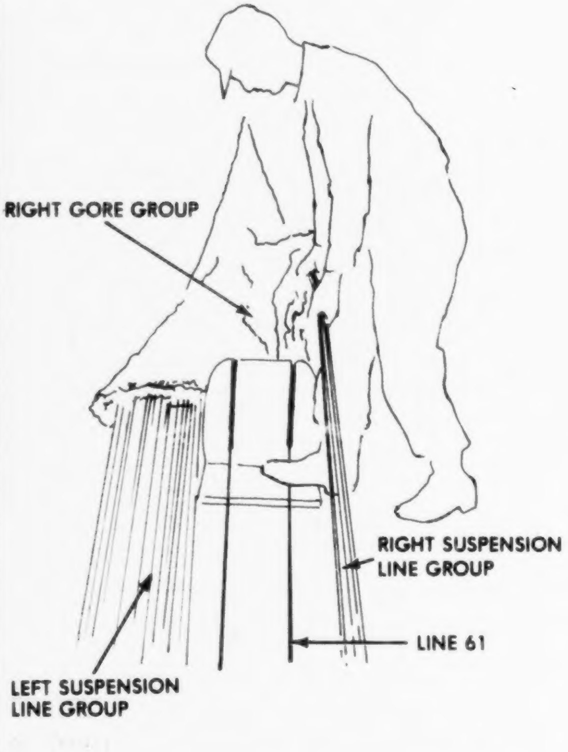


*Figure 2–147. **Preparing** to throw right group of gores and suspension lines, G-11A 100-foot-diameter cargo parachute.*

d. Beginning with line 62, one man passes each line in the right group to a second man who threads the right end of the reefing line through each reefing ring (fig. 2-148) and also guides the suspension lines into the slot of the line separator. Insure the reefing line is evenly distributed between the reefing rings. Continue the gore folding process until lines 61 through 120 are in the right slot of the suspension line separator and the gores between the lines are folded (fig. 2-149).

e. While holding line 60 in position in the line separator, pick up the left suspension line group (fig. 2-150) and throw the left group of gores and lines over the folded right group of gores and lines. Remove the slip knot made in paragraph *2-68d.*

f. Beginning with suspension line 59, one man passes each line in the left group to a second man who threads the left end of the reefing line as outlined in *d* above and guides the lines into the left slot of the line separator. Continue the gore folding process until lines 60 through 1 are in the left slot of the suspension line separator and the gores between the lines are folded.

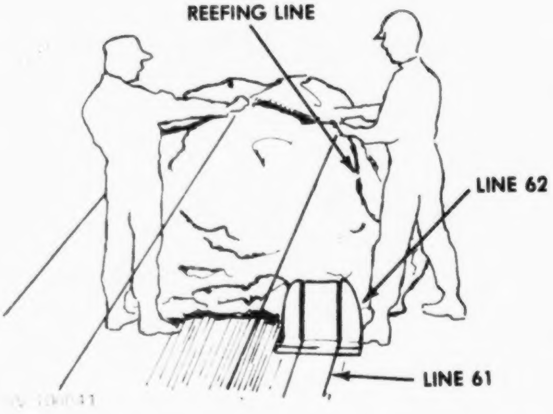


Figure 2–148. Reefing and folding the canopy right gore group, G-11A 100-foot-diameter cargo parachute.

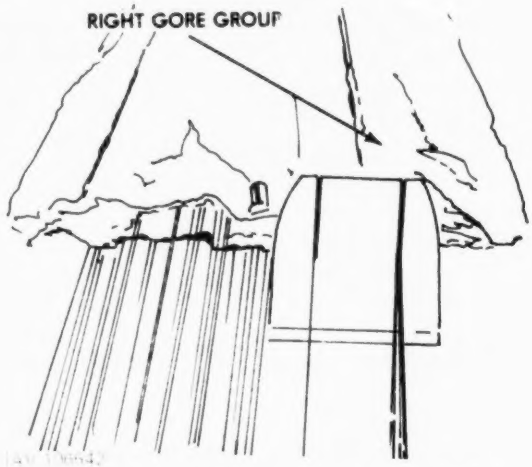


Figure 2–149. Right group of gores folded, G-11A 100-foot-diameter cargo parachute.

g. Pass both running ends of the reefing line to the outside of the canopy and working from left to right, thread 6 to 8 inches of the left running end through the hole in the reefing cutter at line 1.

h. Working from the opposite direction, thread 6 to 8 inches of the right running end of the reefing line through the hole in the reefing line cutter at line 1 (A, fig. 2-151).

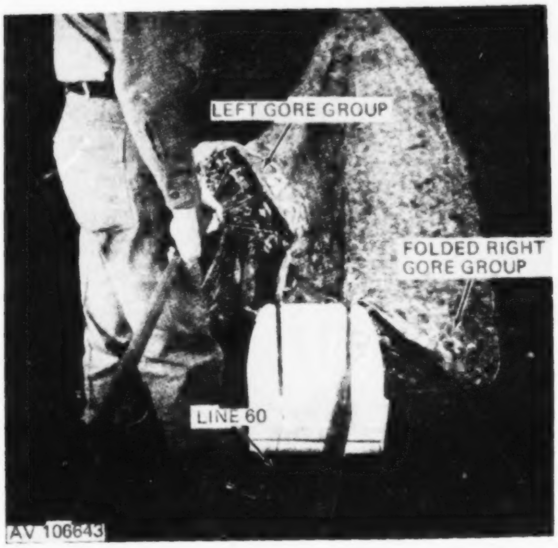


Figure 2–150. Preparing to throw the left group of gores and suspension lines, G-11A 100-foot-diameter cargo parachute.

i. Secure the reefing line ends together over the reefing line cutter (B) at line 1 with a surgeon's knot and a locking knot. Make an werhand knot in each running end. Cut and move the taped ends. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

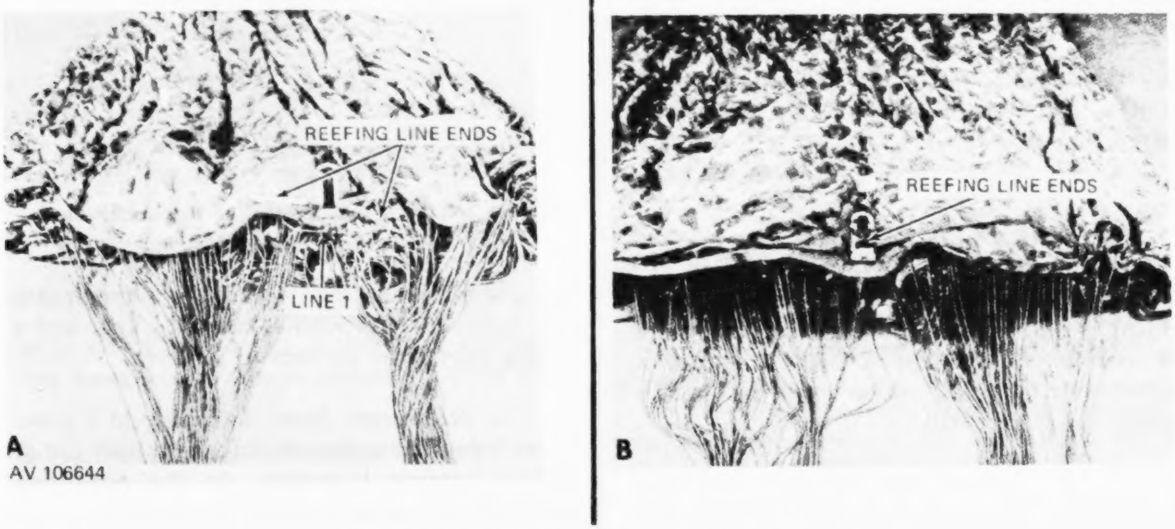
2–71. Tieing the Canopy Assembly

To tie the canopy assembly, release tension, remove the tension devices, and apply the assembly ties as follows:

a. Folded Canopy. Beginning at a point 5 feet above the skirt band (lower lateral band) and at 5-foot intervals thereafter, tie the canopy folds using one turn single, ticket No. 3 cotton thread (fig. 2-152) at each point. Secure each tie with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

b. Suspension Lines.

(1) At a point 5 feet below the skirt band (lower lateral band), tie each group of suspension lines separately using one turn single, ticket No. 3 cotton thread. Secure each tie with a surgeon's knot and a locking knot. Trim tie ends to 2 inches. Remove the large suspension line separator.



A. Reefing line ends threaded through reefing cutter.
B. Reefing line ends secured.

Figure 2–151. Securing the reefing line at suspension line 1, G-11A 100-foot-diameter cargo parachute.

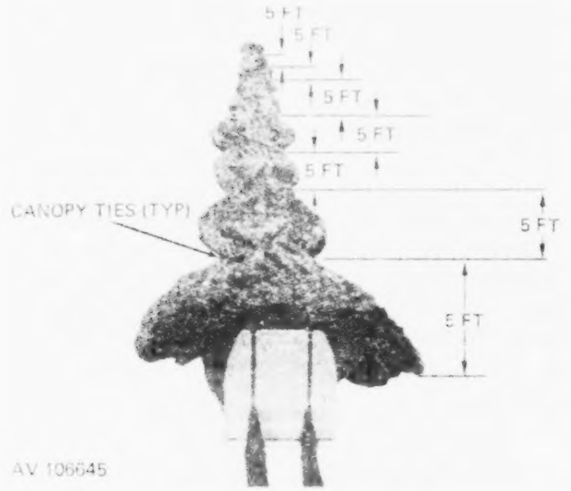


Figure 2–152. Canopy ties completed, G-11A 100-foot-diameter cargo parachute.

(2) Beginning at a point 10 feet below the skirt band (lower lateral band) and at 10-foot intervals thereafter, tie both suspension line groups together using one turn single, ticket No. 3 cotton thread at each point. Secure each tie with a surgeon's knot and a locking knot. Make the last tie at a point 5 feet above the connector link assemblies (fig. 2-153). Trim all tie ends to 2 inches.

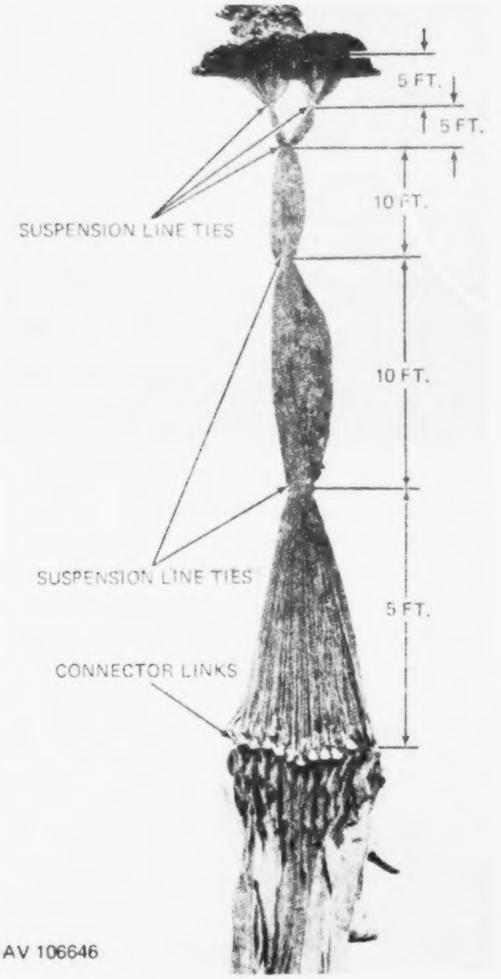


Figure 2–153. Suspension line ties completed, G-11A 100-foot-diameter cargo parachute.

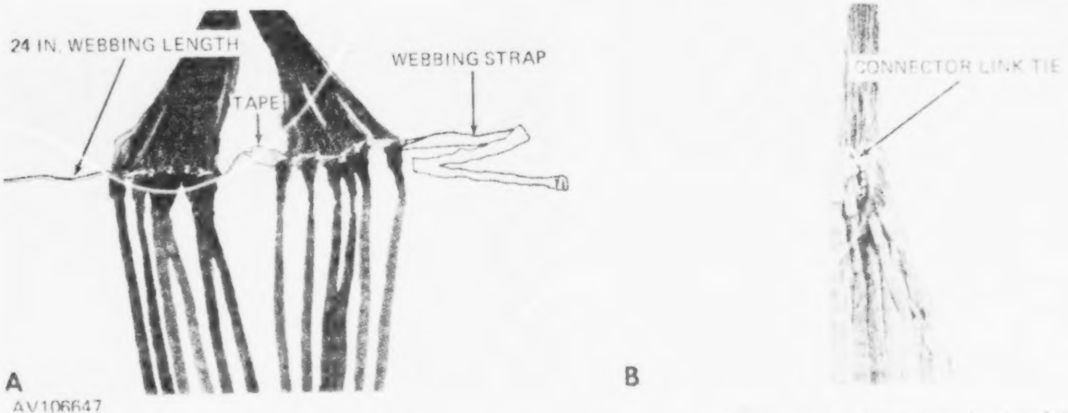
c. Connector Link Assemblies.

(1) Release the strap fastener on the webbing strap threaded through the connector link assemblies, and tape a 24-inch length of 1/4-inch-wide, type I cotton webbing to the running end of the strap.

(2) Remove the webbing strap from the connector link assemblies which, in turn, will pull the taped webbing length through the connector link assemblies (A, fig. 2-154).

(3) Remove the taped webbing length from the webbing strap, and tie the connector link assemblies together with the webbing length (B). Secure the tie with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

d. Suspension Riser. Beginning at a poi 5 feet below the connector link assemblies and at 10-foot intervals thereafter, tie the suspension risers together using one turn single, ticket No. 3 cotton thread (fig. 2-155) at each point. Secure each tie with a surgeon's knot and a locking knot. Trim tie ends to 2 inches. Make the last tie at a point 5 feet above the suspension clevi attaching loops.



A. Installing connector link group tie. *B. Connector link group tie completed.*

Figure 2–154. Securing the suspension line connector link assemblies, G-11A 100-foot-diameter cargo parachute.

2–72. Installing Canopy Breakcord

a. Remove the canopy attaching loop (bridle loop) from the stationary post.

b. Position the deployment bag at the canopy vent.

c. Pass the canopy attaching loop (bridle op) through the deployment bag from the bag en end and through the vent line hole located in the bag closed end. Allow 12 inches of the attaching loop (bridle loop) and wrapped vent lines to extend from the vent line hole.

d. Secure the canopy attaching loop (bridle loop) to the breakcord attaching loop of the deployment bag bridle assembly using the procedures in paragraphs 2-46*d* through *f*.

2–73. Stowing the Canopy

The canopy shall be S-folded and stowed until all of the canopy is stowed in deployment bag using procedures in paragraphs 2-47*a* and *b*.

2–74. Arming the Reefing Line Cutters

a. Position the two reefing line cutters on top of the stowed canopy with the cutter at suspension line 61 placed adjacent to the bag double grommet on the bag bottom and the cutter at suspension line 1 placed adjacent to the bag single grommet on the bag top (fig. 2-156).

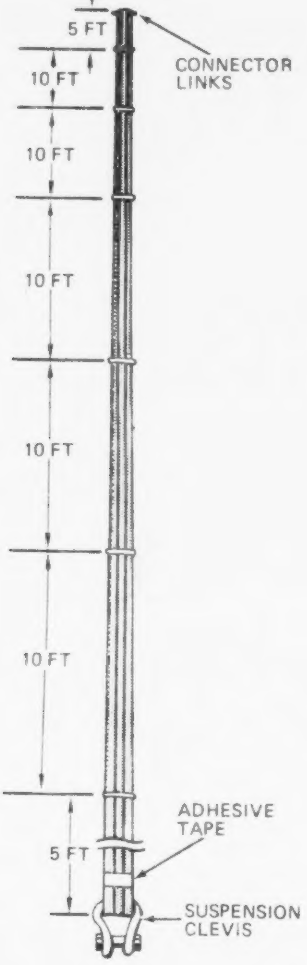
b. Cut two 12-inch lengths of type III nylon cord for use as arming cable ties.

c. Beginning with the reefing line cutter at the bag top, pass the end of one cord through the hole in the top of the arming cable and through the bag single grommet to the bag outside.

d. Pass the opposite end of the cord over the top of the bag edge and draw the cord ends tight. Secure the cord ends on the bag outside with a surgeon's knot and a locking knot. Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

e. Using the remaining cord length on the reefing line cutter at the bag bottom, pass one end of the cord through the hole in the top of the reefing line cutter arming cable and through the lower bag grommet to the bag outside.

f. Pass the opposite cord end through the upper bag grommet to the bag outside and draw the cord ends tight. Secure the cord ends on the bag outside with a surgeon's knot and a locking knot (fig. 2-157). Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot



AV 106648

Figure 2–155. Suspension riser ties completed, G-11A 100-foot-diameter cargo parachute.

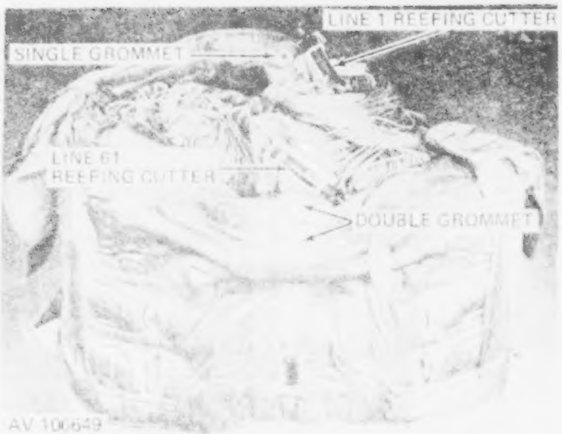


Figure 2–156. Positioning the reefing line cutters in deployment bag, G-11A 100-foot-diameter cargo parachute.

2–75. Installing Reefing Line Cutter Safety Ties

To prevent premature firing of a reefing line cutter while stowing the suspension lines, install a safety tie on each of the reefing line cutters and remove the safety cotter pins as follows:

a. Using a length of one turn, double, ticket No. 5 cotton thread, pass one end of the doubled thread through the slot in the reefing line cutter bracket, through the loop of the arming cable tie, and draw the tie ends tight. Secure the safety tie with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

b. Remove the safety cotter pin and attached tag from each reefing line cutter (fig 2-158) and annotate each tag with the reefi line cutter lot number and parachute pack date.

c. Fold the tags lengthwise and stow the two safety cotter pins with annotated tags in the parachute inspection data pocket (log record pocket) located on the canopy attaching loop (bridle loop).

2–76. Closing the Deployment Bag

a. Bring the suspension lines up over the top of the deployment bag and close the bag side flaps.

b. Cut an 18-inch length of 1/4-inch-wid type I cotton webbing and center the webbi length in the deployment bag center loop strap.

c. Bring the large end flap of the bag over the bag end and pull the locking loops up through the locking slots (fig. 2-159). Insure the webbing length ends on the center loop strap are extended through the center opening on the en flap.

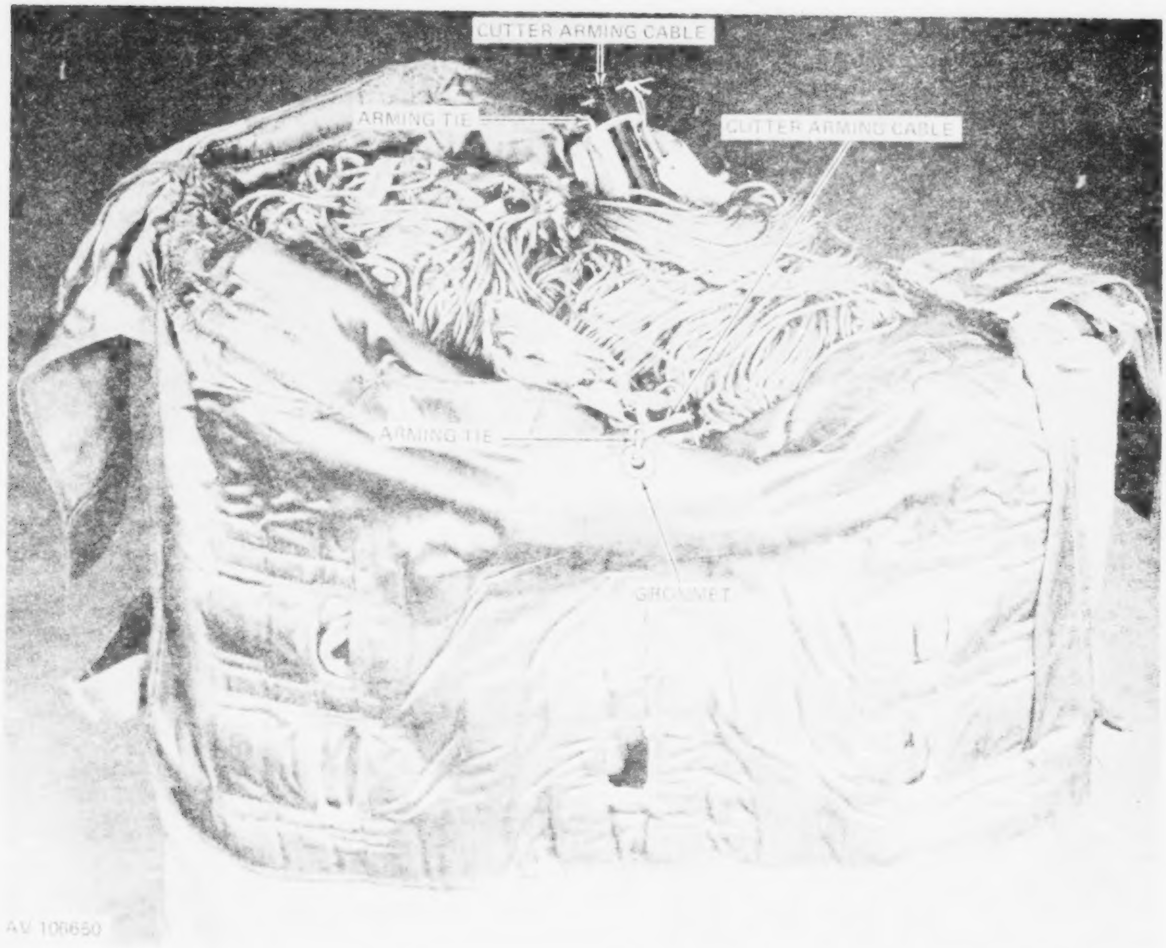


Figure 2–157. Reefing line cutter arming cable ties completed, G-11A 100-foot-diameter cargo parachute.

2–77. Making the Locking Stows

a. Cut a 36-inch length of 1/2-inch-wide tubular nylon webbing or equivalent for use as a packing aid in making the locking stows. Double the webbing length and make an overhand knot in the alined webbing ends.

b. Fold the suspension lines back over the large end flap and form a loop in the lines.

c. Using the packing aid, encircle the formed loop in the suspension lines and make a half-hitch in the packing aid webbing.

d. Thread the knotted end of the packing aid through the locking stow loop located under the protector sleeve at the lower right corner of the deployment bag and pull the suspension line formed loop until the loop is alined with the right edge of the bag large end flap (fig. 2-160). Remove the packing aid.

e. Extend the running end of the suspension lines to the locking stow loop at the lower left corner of the deployment bag and using the procedures in *c* and *d* above, make the second locking stow.

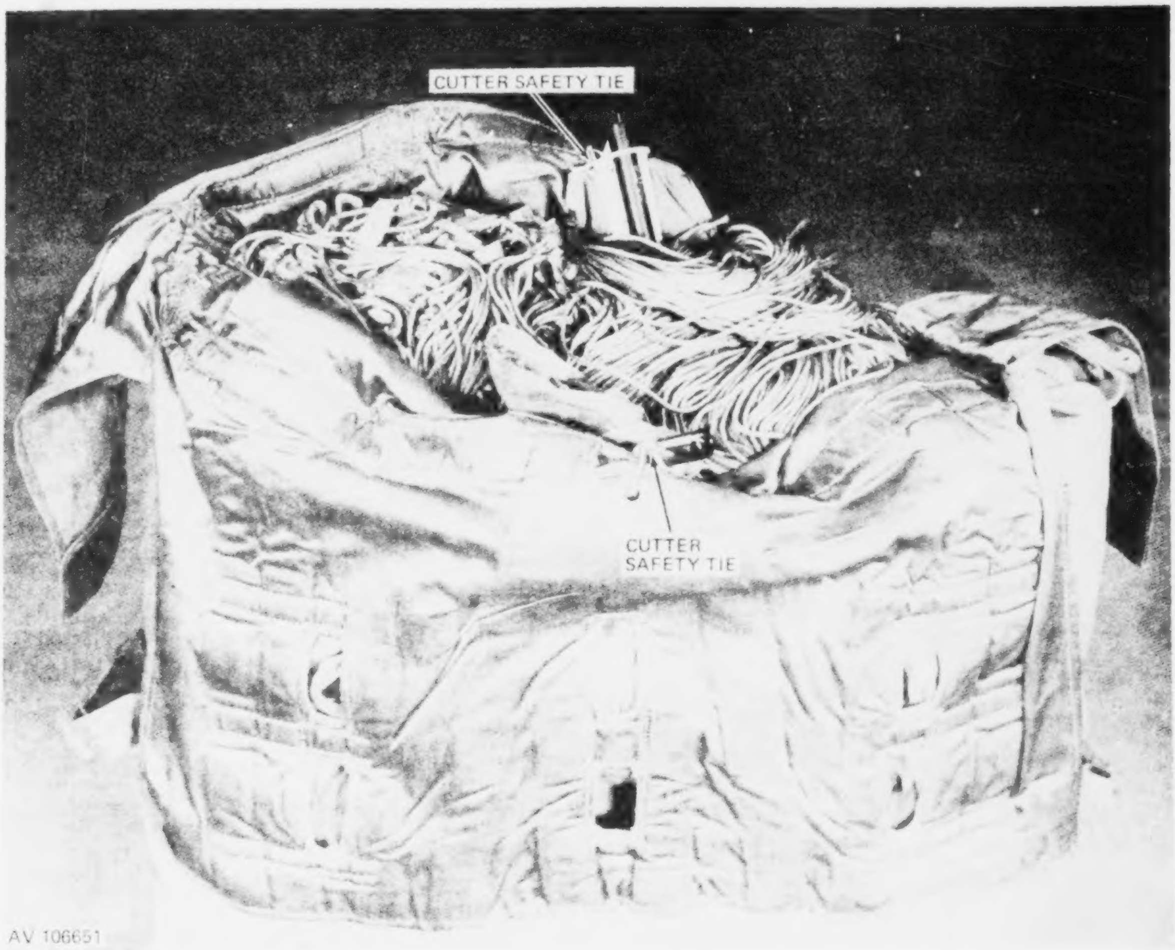


Figure 2–158. Reefing line cutter safety ties completed and safety cotter pins removed, G-11A 100-foot-diameter cargo parachute.

f. Secure the first two locking stows by tieing the suspension line length at a point between the two stows to the deployment bag center loop using the webbing length installed in paragraph 2-76*c* above. Make the tie one turn single and secure the tie with a surgeon's knot and a locking knot (fig. 2-161). Trim tie ends to 2 inches.

g. Extend the running end of the suspension lines to the upper right corner of the large end flap and using the procedures in *c* and *d* above, make the third locking stow.

h. Extend the running end of the suspension lines to the upper left corner of the large end flap and make the fourth locking stow using the procedures in *c* and *d* above (fig. 2-162).

2–78. Installing Suspension Line Stow Ties

a. Cut a minimum of thirty-six 18-inch lengths of 1/4-inch-wide, type I cotton webbing for use as suspension line stow ties.

b. Secure the webbing lengths at equal intervals along each row of side strap loops by making a half-hitch in each webbing length. Insure the ends of each webbing length are alined and positioned toward the respective outer edge of the bag.

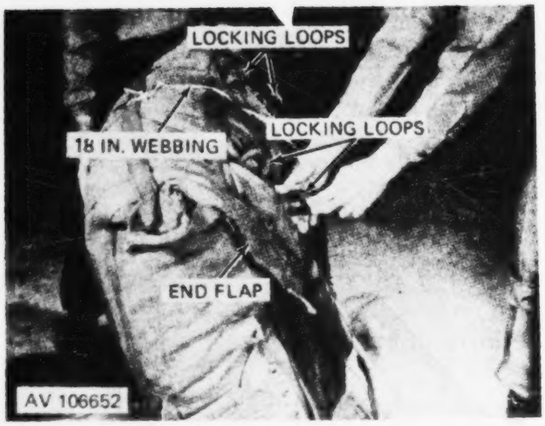

LOCKING LOOPS
18 IN. WEBBING
LOCKING LOOPS
END FLAP
AV 106652

Figure 2–159. Inserting locking loops through locking slots, G-11A 100-foot-diameter cargo parachute.

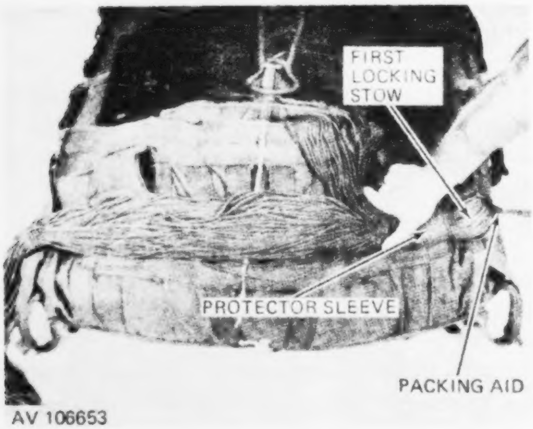

FIRST LOCKING STOW
PROTECTOR SLEEVE
PACKING AID
AV 106653

Figure 2–160. Making the first locking stow, G-11A 100-foot-diameter cargo parachute.

NOTE

Suspension line stow ties are not installed along the center row of strap loops.

2–79. Wrapping the Suspension Lines

To prevent nylon-to-nylon friction burns on the suspension lines and to the canopy during parachute deployment, the suspension lines shall be wrapped as follows:

a. Extend the suspension lines along the top center of the deployment bag toward the bridle end of the bag.

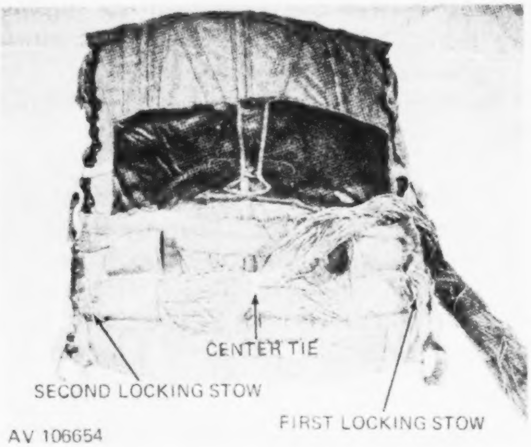

CENTER TIE
SECOND LOCKING STOW
FIRST LOCKING STOW
AV 106654

Figure 2–161. First two locking stows tie completed, G-11A 100-foot-diameter cargo parachute.

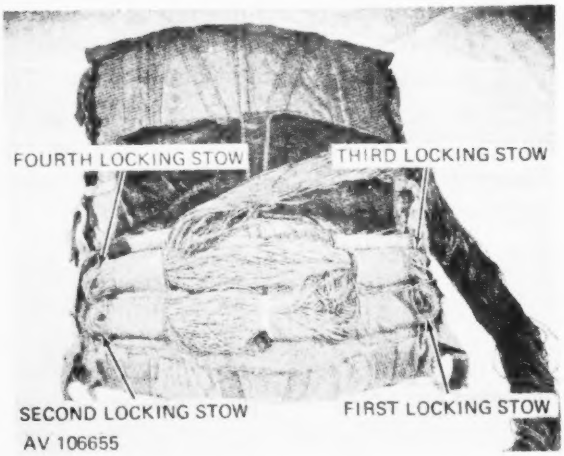

FOURTH LOCKING STOW
THIRD LOCKING STOW
SECOND LOCKING STOW
FIRST LOCKING STOW
AV 106655

Figure 2–162. Locking stows completed, G-11A 100-foot-diameter cargo parachute.

b. Using an 8 1/2-inch-wide by 24-inch-long piece of kraft paper, wrap the suspension lines extended along the top center of the deployment bag (fig. 2-163).

c. Secure each end of the suspension line wrap with one turn single, ticket No. 3 cotton thread and make each tie with a surgeon's knot and a locking knot. Insure the suspension lines are not inadvertently secured to the center loop strap located on the bag top. Trim tie ends to 2 inches.

d. Extend the deployment bag suspension line protector flap back over the locking stows.

2–80. Tacking the Suspension Line Protector Flap

Secure each lower outside corner of the suspension line protector flap to the deployment bag by handtacking using one turn single, ticket No. 3 cotton thread (fig. 2-164) at each tacking point. Secure the tacking ends at each tacking point with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

2–81. Stowing the Suspension Lines and Suspension Risers

a. Extend the running end of the suspension lines to the upper right corner of the deployment bag and form the first suspension line stow by making a loop in the suspension lines.

b. Secure the first suspension line stow to the upper right outside strap loop using the first installed webbing length. Make the tie with a surgeon's knot and a locking knot.

c. Extend the running end of the suspension lines across the width of the deployment bag to the upper left corner of the deployment bag and form the second suspension line stow as outlined in *a* above.

d. Using the procedures in *b* above, secure the second suspension line stow to the upper left outside strap loop (fig. 2-165).

e. Using the procedures in *a* through *d* above, stow the remaining length of suspension lines and the suspension risers to a point 6 to 10 inches from the clevis attaching loops on the ends of the suspension risers. Trim all tie ends to 2 inches.

f. Remove the hexagon nut and 4 3/4-inch-long screw from a 1-inch suspension clevis and insert one end of the clevis body through the attaching loops on the ends of the suspension risers. Reinstall the screw in the clevis and resecure the screw with the hexagon nut (fig. 2-166).

2–82. Lacing the Deployment Bag

a. Bring the deployment bag cover down over the stowed suspension lines and suspension risers. The grommets on the cover sides should then overlap the grommets on the sides of the deployment bag.

b. Cut two 60-inch lengths of 1/4-inch-wide, type I cotton webbing for use as lacing material.

c. Secure an end of one webbing length to the first grommet located on the bottom corner of the deployment bag upper left side with two half-hitches (A, fig. 2-167).

d. Using the webbing length free end and working toward the bag open end, lace the bag cover to the bag side, grommet over grommet (B).

e. Secure the webbing length free end to the last lace with two half-hitches and trim the tie end to 2 inches.

f. Using procedures *c* through *e* above, lace the right side of the deployment bag and cover with the remaining 60-inch webbing length (C).

g. Remove the Army Parachute Log Record (DA Form 10-42 or 3912) from the parachute inspection data pocket (log record pocket) on the canopy attaching loop (bridle loop) and record the pack data as prescribed in TM 10-1670-201-23/TO 13C-1-41. In addition on the "JUMP, INSPECTION, AND REPACK DATA" page, change the column title "BAG NUMBER" to read "LOT NUMBER". Under the "LOT NUMBER" column, enter the lot number of each reefing line cutter installed on the packed canopy. After completing all required entries, return the record along with the reefing line cutter tags to the pocket.

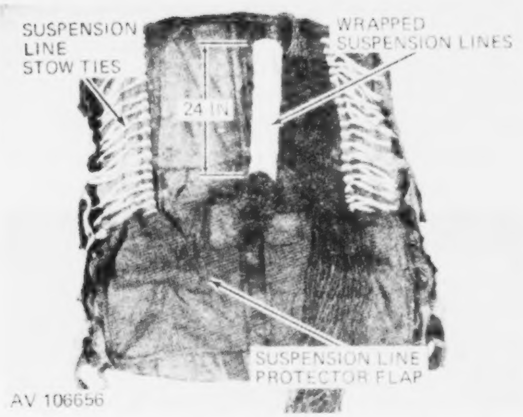

SUSPENSION LINE STOW TIES
WRAPPED SUSPENSION LINES
24 IN
SUSPENSION LINE PROTECTOR FLAP
AV 106656

Figure 2–163. Suspension line wrapping details, G-11A 100-foot-diameter cargo parachute.

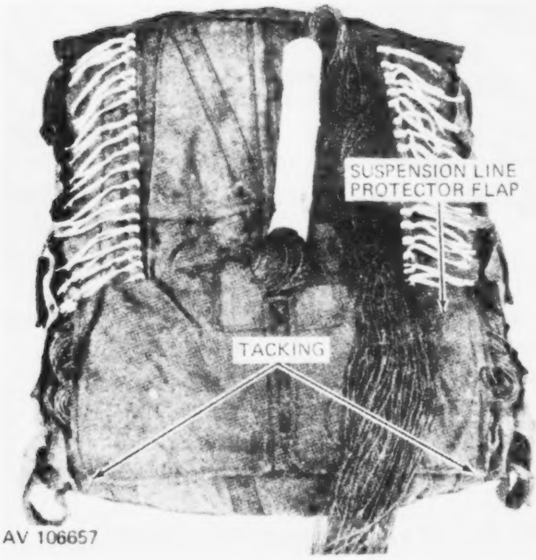

SUSPENSION LINE PROTECTOR FLAP
TACKING
AV 106657

Figure 2–164. Tacking of the suspension line protector flap completed, G-11A 100-foot-diameter cargo parachute.

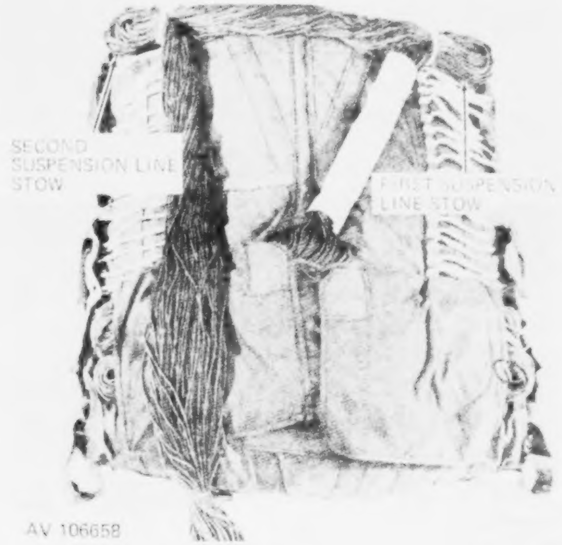

SECOND SUSPENSION LINE STOW
FIRST SUSPENSION LINE STOW
AV 106658

Figure 2–165. First and second suspension line stows formed and secured, G-11A 100-foot-diameter cargo parachute.

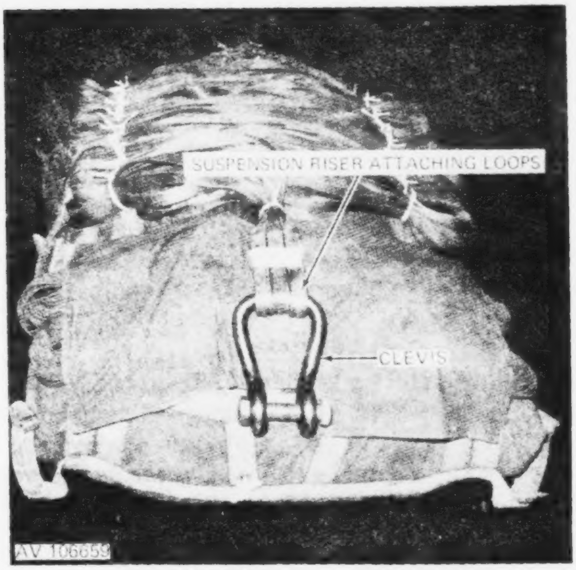
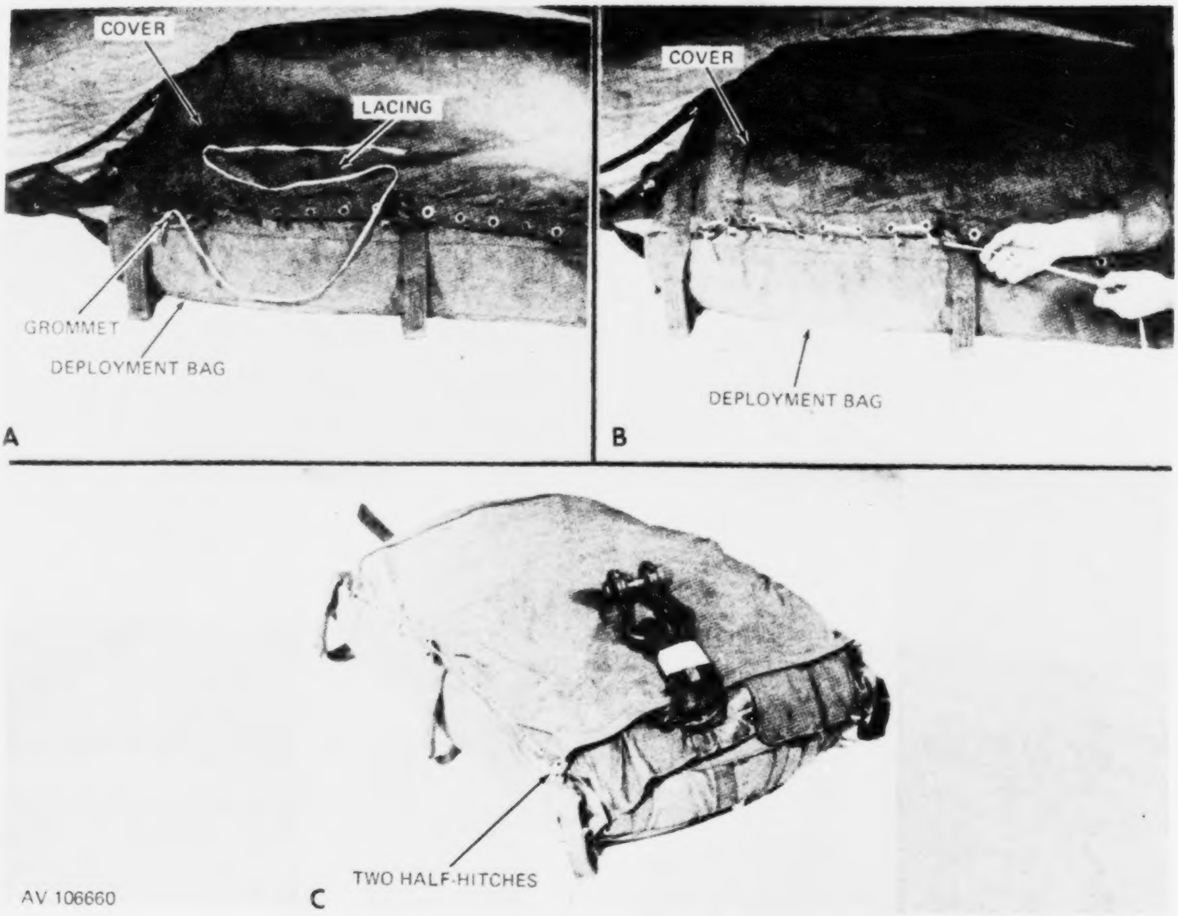

SUSPENSION RISER ATTACHING LOOPS
CLEVIS
AV 106659

Figure 2–166. Suspension line and suspension riser stowage completed and clevis attached, G-11A 100-foot-diameter cargo parachute.


COVER
LACING
GROMMET
DEPLOYMENT BAG
A
COVER
DEPLOYMENT BAG
B
TWO HALF-HITCHES
AV 106660
C

A. Lace webbing secured to grommet on deployment bag.
B. Lacing the cover to the deployment bag.
C. Deployment bag lacing completed.

Figure 2–167. Lacing the deployment bag, G-11A 100-foot-diameter cargo parachute.

Section X. THE 15-, 22-, AND 28-FOOT-DIAMETER CARGO EXTRACTION PARACHUTES

2–83. General

The 15-, 22-, and 28-foot-diameter cargo extraction parachutes are packed using essentially the same packing procedures for each of the assemblies. Variations in packing are specified within the applicable procedure, as applicable. A distinct difference in packing of the cargo extraction parachutes applies to the 15-foot-diameter cargo extraction parachute which may be packed with a reefed or an unreefed canopy, according to operational requirements. Additionally, when required, the 15-foot-diameter cargo extraction parachute may be converted and packed as a release parachute for use in airdropping A-22 aerial delivery containers.

2–84. Converting a 15-Foot-Diameter Cargo Extraction Parachute

To convert a 15-foot-diameter cargo extraction parachute to a release parachute requires a 54-foot-long release line to be substituted for the 60-foot-long extraction line as follows:

a. Remove the suspension line connector link assemblies from the tension plate.

b. Using a suitable sized flat-tip (common-head) screwdriver, remove the screws from one connector link assembly and separate the assembly L-bars. Insure the suspension lines do not slide off the attaching L-bar.

c. Remove the opposite L-bar from the extraction line connector link attaching loop.

d. Install the free connector link L-bar into one of the release line connector link attaching loops and reassemble the connector link assembly by reversing the procedures in *b* above.

e. Connect the remaining suspension line connector link assemblies to the release line connector link attaching loops in the same manner as previously attached to the extraction line, using the procedures in *b* through *d* above.

f. Reconnect the connector link assemblies to the tension plate.

2–85. Reefing the 15-Foot-Diameter Cargo Extraction Parachute Canopy

The 15-foot-diameter cargo extraction parachute canopy may be reefed using a 148-inch-long or a 260-inch-long reefing line which shall be installed as follows:

a. Grasp one end of the reefing line, turn up the suspension line attaching loop at line 1, and pass the reefing line through the attaching loop from right to left until the last reefing line retaining loop formed to the right is reached.

b. Position the last reefing line retaining loop over the top of the suspension line attaching loop (A, fig. 2-168) and pass the left running end of the reefing line through the positioned retaining loop (B). Pull the reefing line left running end until all the slack is taken up and the attaching loop is secured between the reefing line and the retaining loop (C).

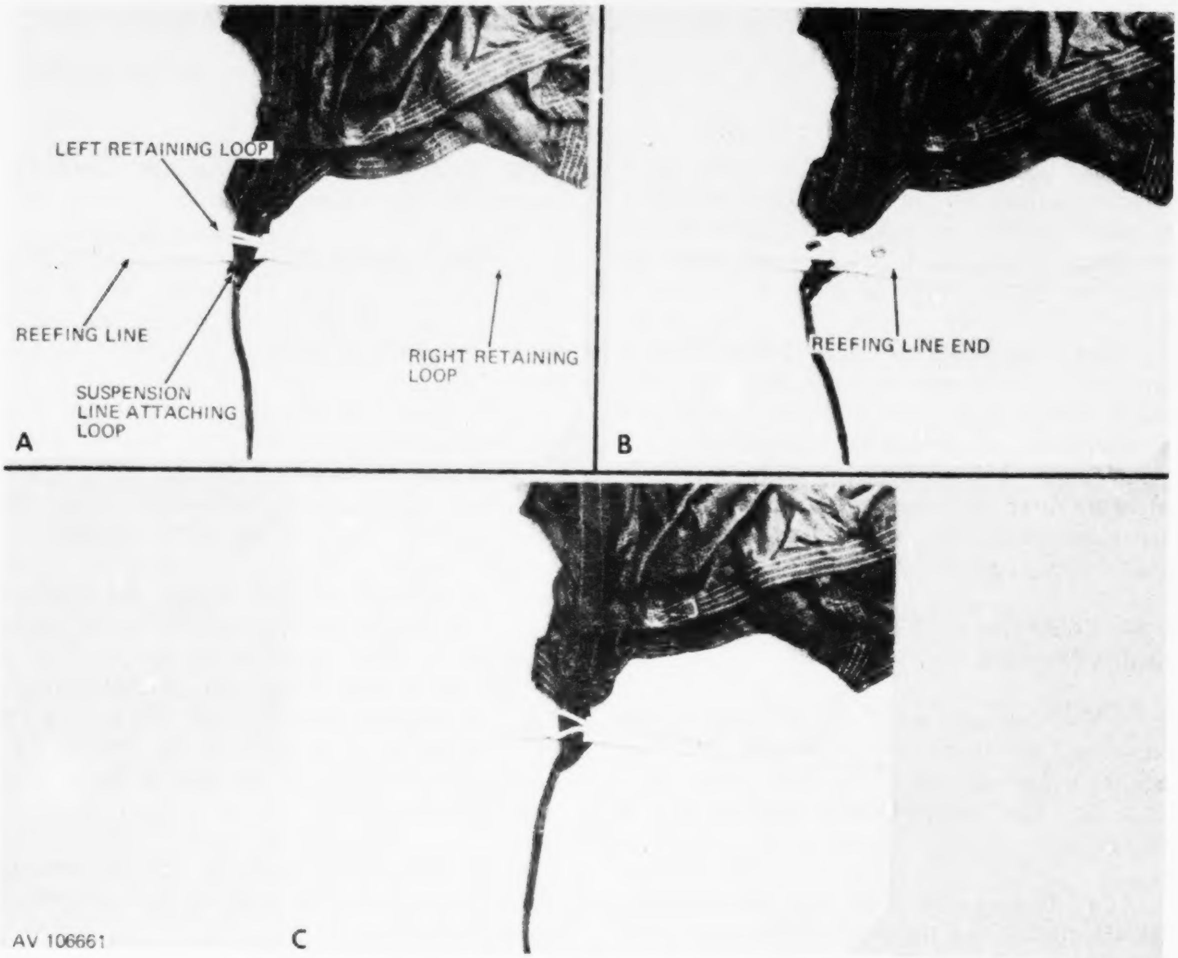
c. Secure the remaining retaining loops on the reefing line left running end using procedures in *a* and *b* above.

d. Turn up the suspension line attaching loop at line 16, and pass the right running end of the reefing line through the attaching loop from left to right until the last reefing line retaining loop formed to the left is reached. Secure the retaining loop to the attaching loop as in *b* above.

e. Secure the remaining retaining loops on the reefing line right running end using procedures in *a* and *b* above.

f. Overlap the reefing line ends and aline the grommets.

g. Cut two 12-inch lengths of type III nylon cord. Secure the alined grommets at two points by making a one turn single tie using a



A. Positioning left retaining loop over suspension line attaching loop.
B. Reefing line running end passed through retaining loop.
C. Reefing line retaining loop secured to attaching loop.

Figure 2-168. Installing a reefing line, 15-foot-diameter cargo extraction parachute.

12-inch cord length at each point. Make each tie with a surgeon's knot and a locking knot. Make an overhand knot in each running end (fig. 2-169). Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

2–86. Folding the Canopy Gores

a. Flatfold.

(1) Apply tension to the canopy assembly.

(2) Pick up the right group of suspension lines (lines 9 - 16, 15-foot-diameter extraction parachute) (lines 15 - 28, 22-foot-diameter extraction parachute) (lines 16 - 30, 28-foot-diameter extraction parachute) with the left hand, and while holding the top center gore in position with the right hand (fig. 2-170), flip the right group of gores over the left group.

(3) Using the right hand, pick up line 9 (15-foot), line 15 (22-foot) or line 16 (28-foot), as applicable, at the canopy skirt and place the line between the thumb and forefinger of the right hand. Further move the line to the right edge of the table.

(4) Complete the flatfold of the canopy using procedures outlined in paragraph 2-7*a*.

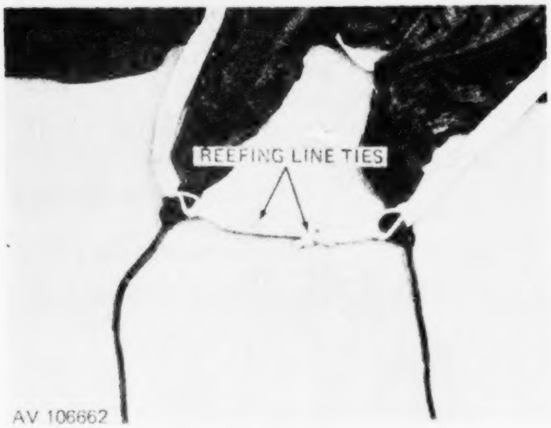


Figure 2–169. Reefing line installed and secured, 15-foot-diameter cargo extraction parachute.

b. Longfold. Longfold the first three panels (sections) of the 15-foot-diameter extraction parachute, the first four panels (sections) of the 22-foot-diameter extraction parachute, and the first six sections of the 28-foot-diameter extraction parachute as follows:

(1) Beginning with panel/section 1, old the right group of gores over the radial seam and fold the left group of gores over the folded right group. Secure the folded panels/sections with packing weights (fig. 2-171). Insure the completed folds are the same width as the deployment bag.

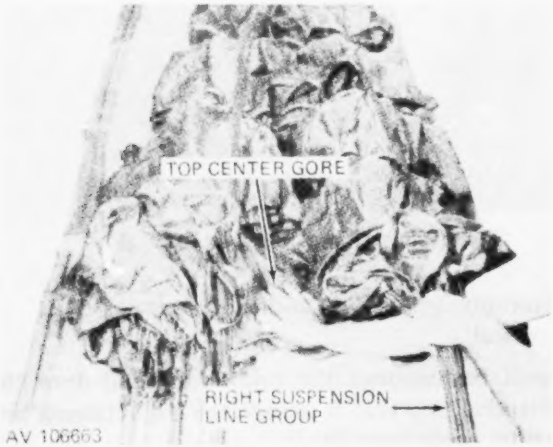


Figure 2–170. Preparing to flip right gore group on extraction parachute canopy, typical.

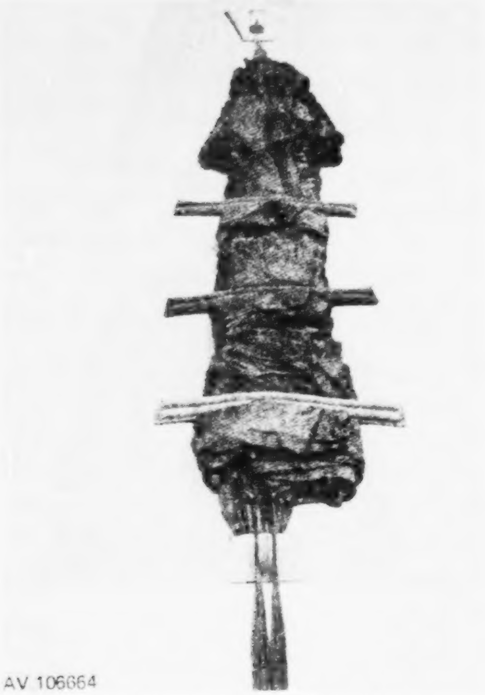


Figure 2–171. Extraction parachute canopy longfold completed, typical.

(2) Smooth the material in the remaining panels/sections of the canopy.

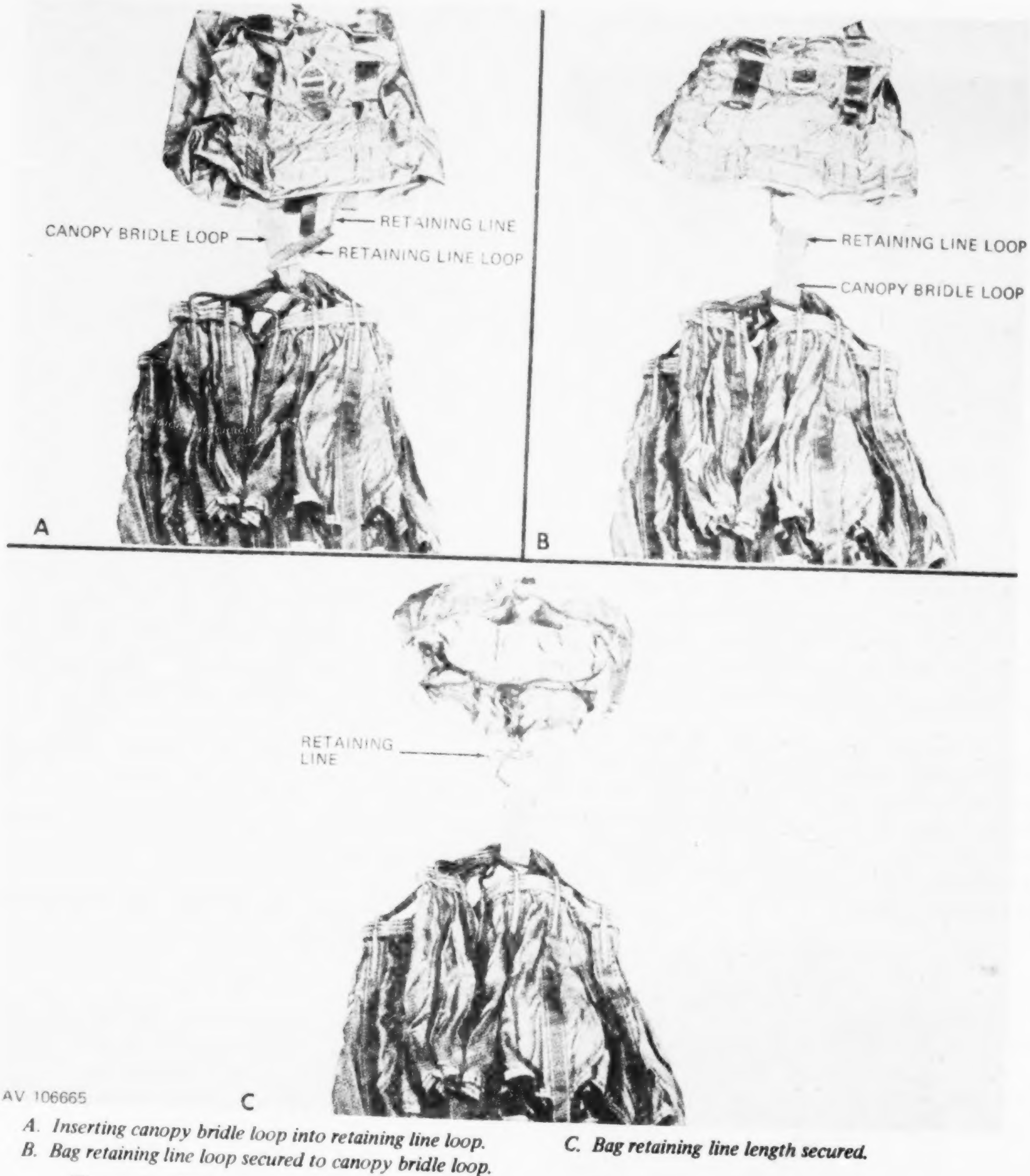
(3) Release tension and remove tension devices.

2–87. Attaching and Stowing the Deployment Bag Retaining Line

NOTE

> The generic term "bridle loop" will be used throughout this section in lieu of the proper noun "attachment loop" as applies to the 15- and 22-foot-diameter cargo extraction parachutes and 'vent loop" as applicable to the 28-foot-diameter cargo extraction parachute.

a. Position the deployment bag above the canopy vent with the open end of the bag located adjacent to the canopy bridle loop.


CANOPY BRIDLE LOOP
RETAINING LINE
RETAINING LINE LOOP
A
RETAINING LINE LOOP
CANOPY BRIDLE LOOP
B
RETAINING LINE
AV 106665
C

A. Inserting canopy bridle loop into retaining line loop.
B. Bag retaining line loop secured to canopy bridle loop.
C. Bag retaining line length secured.

Figure 2–172. Attaching extraction parachute canopy bridle loop to deployment bag retaining line, typical.

b. Pull the deployment bag retaining line loop from the bag inside and insert the canopy bridle loop into the retaining line loop (A, fig. 2-172).

c. Holding the bag retaining line loop and the canopy bridle loop in place, pull the deployment bag through the bridle loop and draw the retaining line taut to secure the bag retaining line to the bridle loop (B).

d. S-fold the excess bag retaining line length to form 4-inch folds, and secure the folds with a rubber retaining band (C).

2-87A. Attaching the Deployment Bag. (See figure 2-172A)

If the deployment bag is not attached to the vent loop (bridle loop), attach the bag retaining line as follows:

(a) cut a 72 inch length of 1 inch wide tubular nylon webbing for use as a bag retaining line.

(b) Pass one end of the bag retaining line through the canopy vent loop (bridle loop) and center the line length in the loop.

(c) Aline the webbing ends and pass the alined ends into the bag and out of the bag end slot.

(d) Position the end of the canopy vent loop (bridle loop) at the open end of the deployment bag.

(e) At the bag top, pass one running end of the retaining line over the top of the deployment bag bridle straps and pass the opposite running end under the bridle straps.

(f) Secure the webbing ends together above the bag bridle straps with a surgeons knot and a locking knot. Make an overhand knot in each running end and trim ends to 2 inches. The bag retaining line finished length shall measure approximately the same length of the deployment bag.

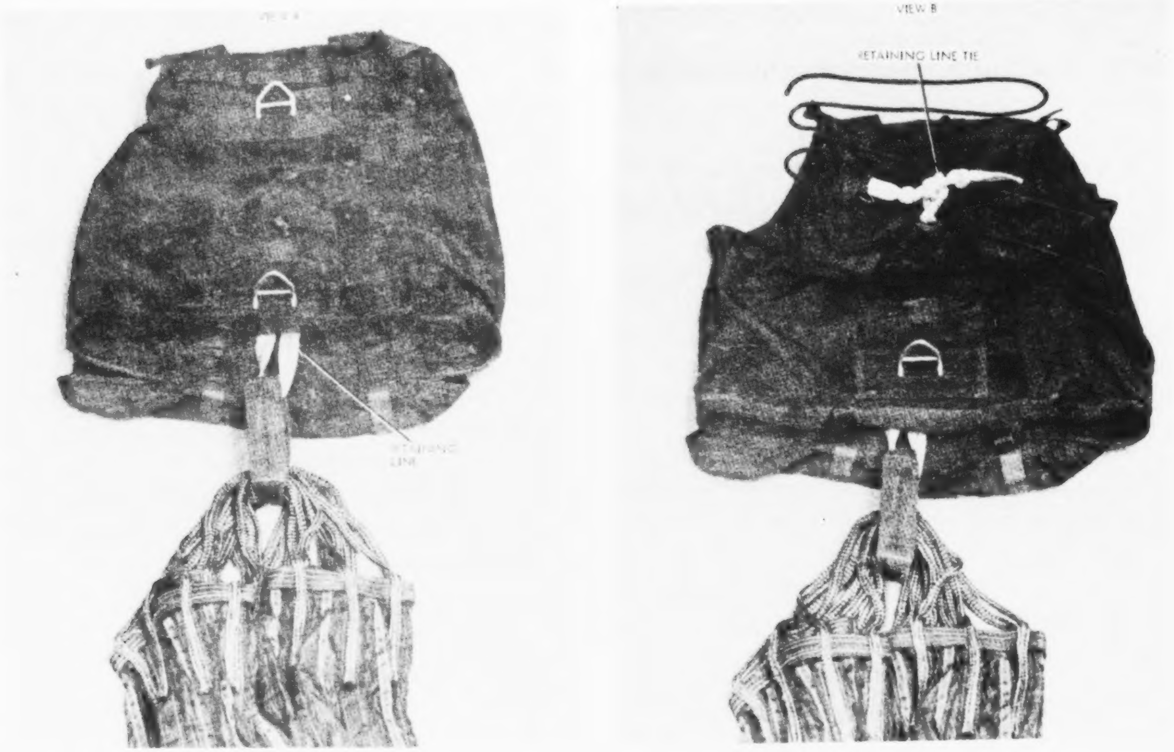

VIEW A
RETAINING LINE
VIEW B
RETAINING LINE TIE

Figure 2-172A. The 28-foot-diameter cargo extraction parachute deployment bag (View A & B).

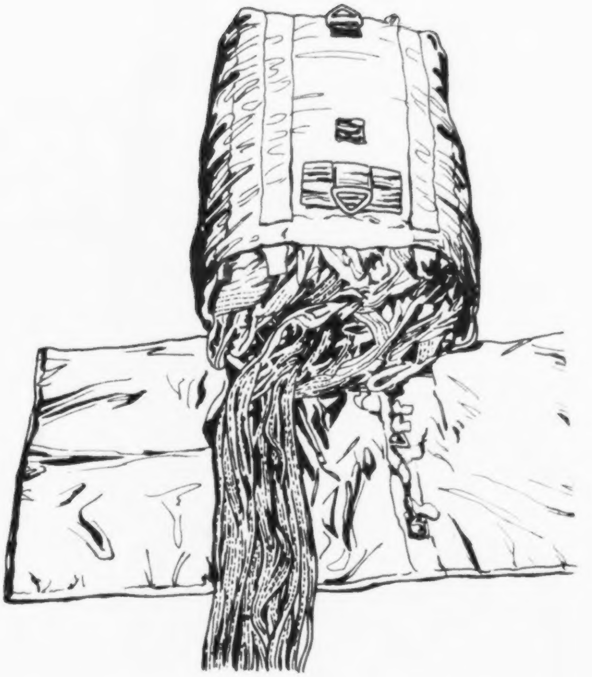


Figure 2—173. Extraction parachute canopy stowed in deployment bag, typical.

2—88. Stowing the Canopy

a. Before stowing the canopy, install rubber retainer bands at equal intervals along the suspension line stowage flap stow loops.

b. Beginning at the upper right inside corner of the deployment bag, stow the canopy in the bag with S-folds. Upon completion of canopy stowage, the suspension lines should extend from the lower left side of the bag open end (fig. 2-173).

c. Fold the suspension lines from left to right across the skirt of the stowed canopy.

d. Using a length of one turn single, ticket No. 5 cotton thread, secure the top and bottom center bag tie loops together by passing one thread end through the bottom center tie loop from right to left, under the suspension line fold, through the top center tie loop from left to right and join the thread ends on top of the suspension line fold with a surgeon's knot and a locking knot (fig. 2-174). Trim tie ends to 2 inches.

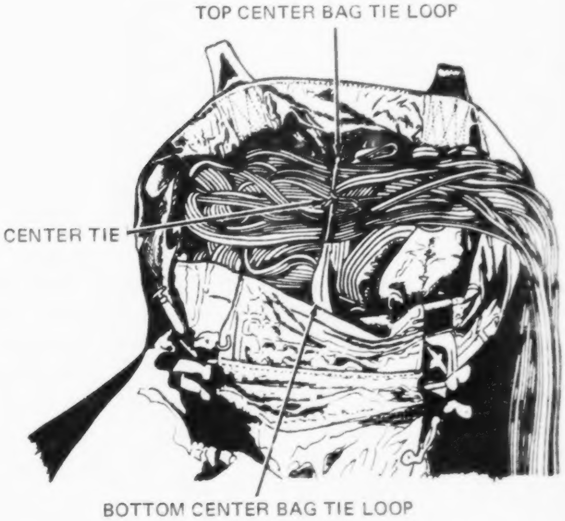

TOP CENTER BAG TIE LOOP
CENTER TIE
BOTTOM CENTER BAG TIE LOOP

Figure 2—174. Extraction parachute deployment bag center bag tie loops secured, typical.

2—89. Stowing the Suspension Lines

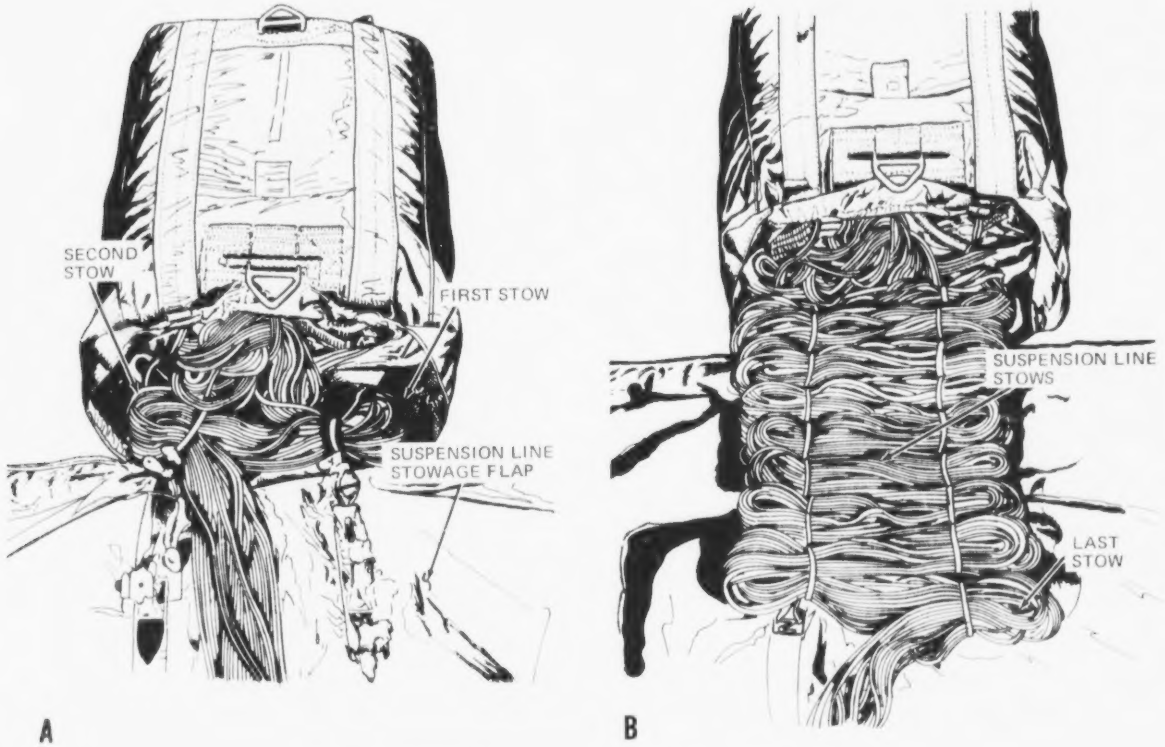
a. To the right of the secured center bag tie loops, form a loop in the suspension lines and make the first suspension line stow at the upper right corner of the deployment bag suspension line stowage flap. Secure the stow with the installed rubber retainer band.

b. Extend the suspension lines to the upper left corner of the stowage flap and using the procedures in *a* above, make the second suspension line stow (A, fig. 2-175).

c. Using the procedures in *a* and *b* above, continue stowing the suspension lines on the stowage flap alternately from right to left to a point within 6 inches of the suspension line connector link assemblies. Make the last stow at the lower right side of the stowage flap (B).

NOTE

When making extraction parachute suspension line stows insure the stows do not exceed the width of the deployment bag.



A. First and second suspension line stows completed.
B. Suspension line stows completed.

Figure 2—175. Making extraction parachute suspension line stows, typical.

2—90. Closing the Deployment Bag

Procedures for closing an extraction parachute deployment bag will vary depending upon whether the parachute canopy is unreefed or reefed and are as follows:

a. Unreefed Canopy.

(1) Position the suspension line connector link assemblies back on top of the stowed suspension lines and extend the extraction line or adapter web, as applicable, across the stowed suspension lines to the lower left corner of the deployment bag (A, fig. 2-176). On the 28-foot-diameter extraction parachute, S-fold the free end of the adapter web to a point 9 to 12 inches from the adapter web loop and stow the S-folds in the deployment bag.

(2) Fold the right side of the suspension line stowage flap over the stowed suspension lines and further fold the left flap over the right (B).

(3) Beginning at the lower end of the suspension line stowage flap, tightly roll the flap into the open end of the deployment bag. Insure the extraction line, release line, or 9 to 12 inches of the adapter web, as applicable, extends from the left side of the deployment bag.

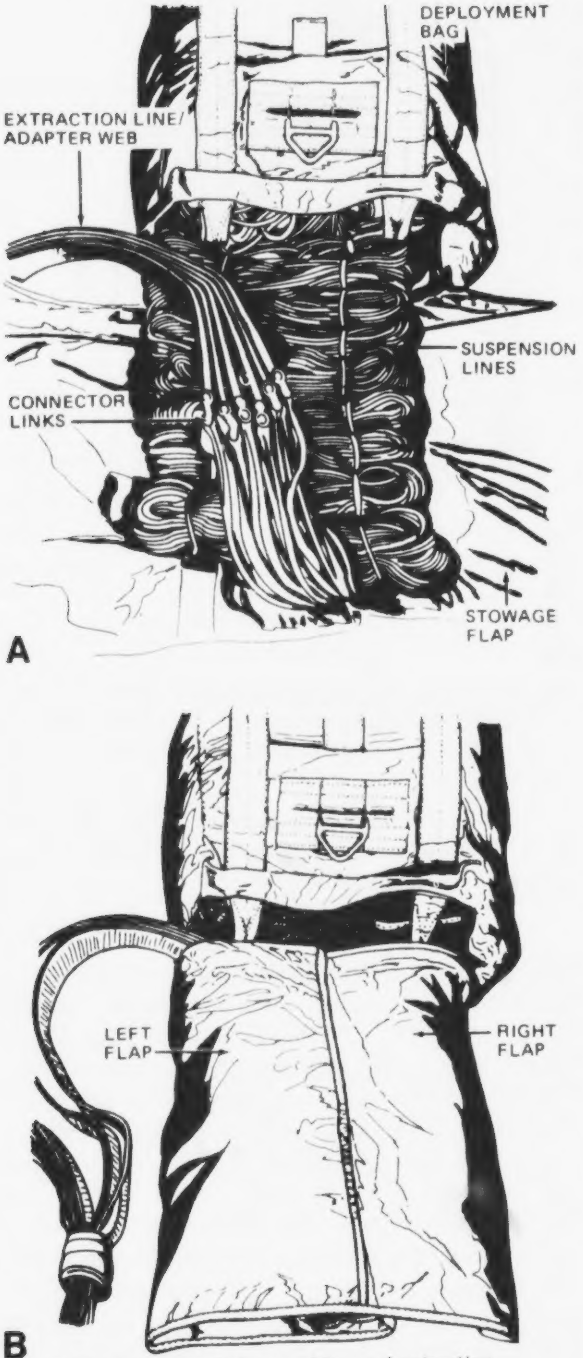
(4) Fold the extended extraction line, release line, or adapter web, as applicable, from left to right across the rolled suspension line stowage flap.

NOTE

Use one turn doubled, Ticket No. 5 cotton thread for closing the 15-foot diameter extraction parachute deployment bag. Use one turn single, 1/4-inch wide cotton webbing for closing the 22 and 28-foot' diameter extraction parachute deployment bags.

(5) Using the appropriate material indicated in paragraph (4) above, make the left bag closing tie by passing one end of the material through the left bottom bag closing loop from right to left, up behind the extraction line or adapter web, as applicable, through the top bag closing loop from left to right, and join the thread on top of the extraction line, release line, adapter web, as applicable, with a surgeon's knot and a locking knot. Trim tie ends to 2 inches.

(6) Using the appropriate material indicated in paragraph (4) above, make the right bag closing tie by passing one end of the material through the right bottom bag closing loop from left to right, up behind the extraction line, release line, or adapter web, as applicable, up through the right side bag grommet, through the top bag closing loop from right to left, and secure the tie as outlined in (5) above (fig. 2-177).


DEPLOYMENT BAG
EXTRACTION LINE/ ADAPTER WEB
SUSPENSION LINES
CONNECTOR LINKS
STOWAGE FLAP
A
LEFT FLAP
RIGHT FLAP
B

A. The connector link assemblies and extraction line/adapter web positioned.
B. Suspension line stowage flap closed.

Figure 2—176. Closing the extraction parachute deployment bag suspension line stowage flap, typical.

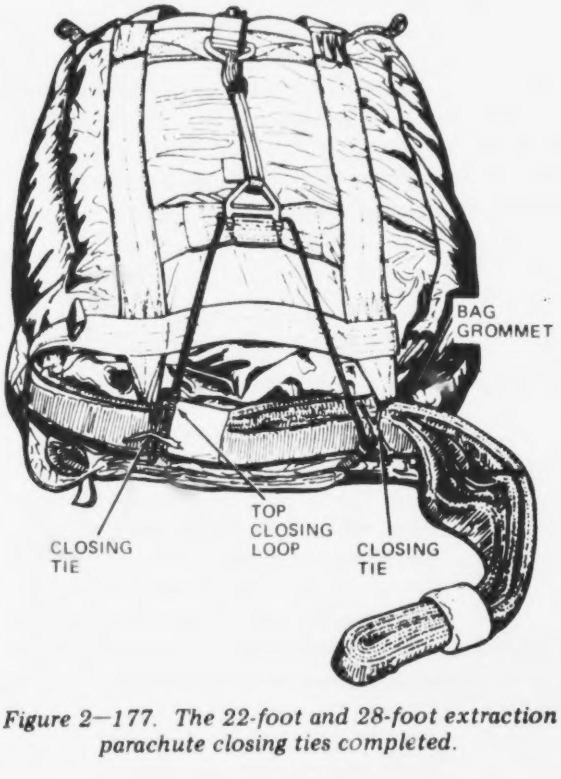

BAG GROMMET
TOP CLOSING LOOP
CLOSING TIE
CLOSING TIE

Figure 2—177. The 22-foot and 28-foot extraction parachute closing ties completed.

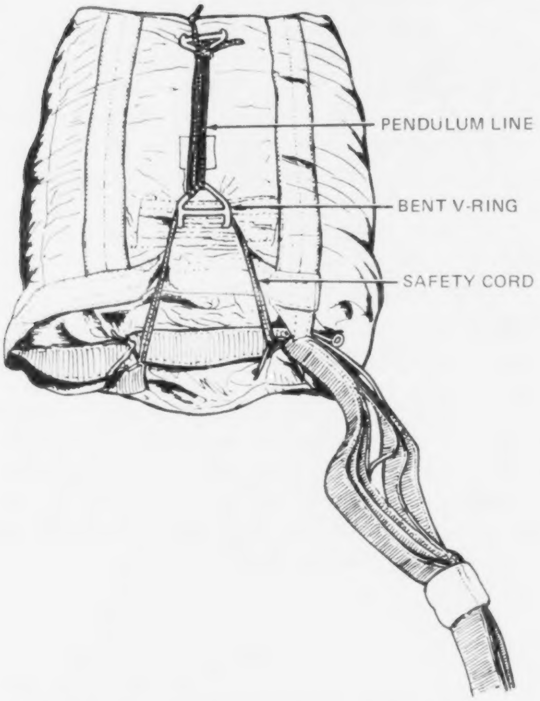


Figure 2—178. Extraction parachute safety cord and pendulum line secured, typical.

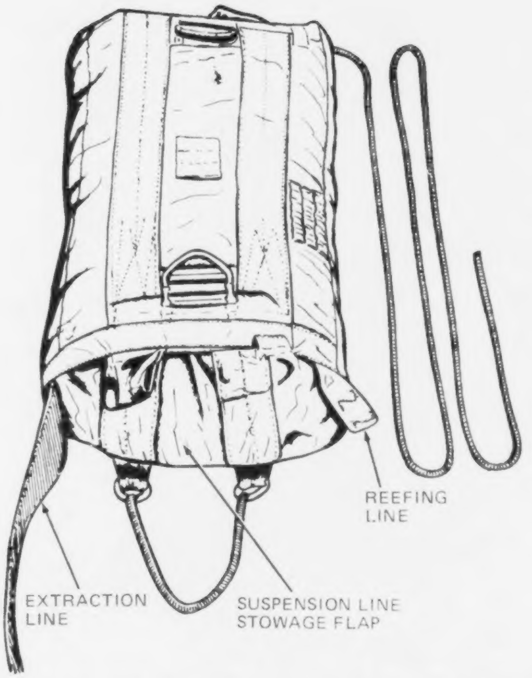


Figure 2—179. The 15-foot-diameter reefed cargo extraction parachute suspension line stowage flap rolled and reefing line exposed.

(7) Extend the bag opening safety cord over the bent V-ring. Secure the safety cord by passing the pendulum line running end through the slot in the V-ring, drawing the line taut, and making a half-hitch in the pendulum line running end (fig. 2-178).

b. Reefed Canopy.

(1) Complete procedures as outlined in paragraph *a*(1) and (2) above.

(2) Raise the top right corner of the deployment bag open end, grasp the canopy reefing line, and gently pull on the reefing line until the number 12 or 22, which is stenciled on the reefing line, is out of the bag.

(3) Using the procedures in paragraph *a*(3) above, roll the suspension line protector flap into the deployment bag (fig. 2-179).

(4) Fold the extraction line and make the left bag closing tie using the procedures in paragraph *a*(4) and (5) above.

(5) Using the same tie material as in paragraph *a*(5) above, pass one end of the doubled thread through the bottom right bag closing loop from left to right, up behind the extraction line, up through the right side bag grommet, behind the reefing line number, through the right top bag closing loop from right to left, and join the thread ends on top of the extraction line with a surgeon's knot and a locking knot (fig. 2-180). Trim tie ends to 2 inches.

(6) Secure the bag opening safety cord and pendulum line using procedures in paragraph *a*(7) above.

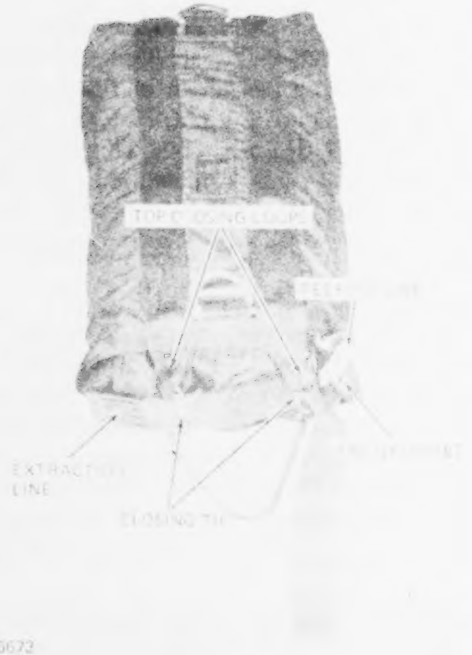


Figure 2–180. The 15-foot-diameter reefed cargo extraction parachute bag closing ties completed.

2–91. Attaching the Extraction Line

Prior to attaching the extraction line to a 22- or 28-foot-diameter extraction parachute adapter web or before stowing a 15-foot-diameter extraction parachute 60-foot-long extraction line it must be ascertained what extraction line length is required for operational commitments. Under normal circumstances, the 60-foot-long extraction line will be used. However, if a 15-, 22-, or 28-foot-diameter extraction parachute is to be used in airdrop operations from a C-141 aircraft a 120-foot-long extraction line shall be required. To achieve the 120-foot-length requirement, two 60-foot-long extraction lines are joined together through use of a type IV quick release link assembly. For an extraction line which is to be used with the 15-foot-diameter extraction parachute, the joining process which is outlined in TM 10-500 will also include the use of a 9 1/2-inch-long adapter web with an additional 3 1/2-inch-long buffer (fig. 2-181). The extraction lines used with the 22- and 28-foot-diameter extraction parachutes shall be attached as follows:

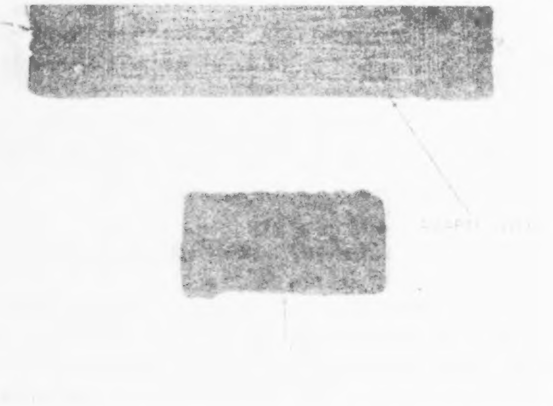


Figure 2–181. The 9 1/2-inch-long adapter web and 3 1/2-inch-long buffer, 15-foot-diameter cargo extraction parachute.

a. The 60-Foot-Long Extraction Line.

(1) Position the deployment bag at the upper end of a packing table.

(2) Extend a 60-foot-long extraction line along the length of the packing table with the release knives facing down and toward the lower end of the packing table.

NOTE

The extraction line used with the 22-foot-diameter extraction parachute has three concentric webbing loops. The extraction line used with the 28-foot-diameter extraction parachute has four concentric webbing loops.

CAUTION

On the 28-foot-diameter extraction parachute, insure that only 9 to 12 inches of the adapter web extends from the deployment bag to prevent the attached type IV quick release link assembly from striking the aircraft floor during extraction parachute deployment.

(3) Install the adapter web loop on one end of a type IV quick release link assembly.

(4) To complete the attachment, install the extraction line parachute attaching loop on the opposite end of the link assembly.

b. The 120-Foot-Long Extraction Line.

(1) Using the procedures in paragraph *a* above, attach the first half of the 120-foot-long extraction line to the parachute adapter web.

(2) Using a type IV quick release link assembly, connect a second 60-foot-long extraction line to the load attaching loop of the line attached to the parachute. Insure the release knives on the second extraction line are positioned in the same manner as on the first extraction line length.

(3) Using a minimum of three turns of pressure sensitive adhesive tape, tape each release knife on the second extraction line length to one ply of webbing on the extraction line.

(4) Cut a 24-inch-wide by 20-inch-long piece of 1-inch-thick felt or cellulose wadding and wrap the link assembly connecting the two 60-foot-long extraction lines. Secure the wrap material with pressure-sensitive adhesive tape.

2–92. Stowing the Extraction Line, Adapter Web, or Release Line

a. Position the packed deployment bag on a packing table with bottom up.

b. If applicable, secure the V-ring, located on the extraction line 30 feet from the load attaching loop to the extraction line webbing using pressure-sensitive tape.

c. Stow the extraction line, adapter web, or release line length, as applicable by S-folding the webbing along the length of the deployment bag, making layers of folds, as required. Using the deployment bag tiedown loops, secure each layer of S-folded webbing at a minimum of two points. Make each tie with a suitable length of one turn single, 1/4-inch-wide, type I cotton webbing (fig. 2-182)).

d. Remove the Army Parachute Log Record (DA Form 10-42 or 3912) from the parachute inspection data pocket (log record pocket) on the upper end of the deployment bag and record the pack data as prescribed in TM 10-1670-201-23/TO 13C-1-41. Upon completion of the entries, return the record to the pocket.

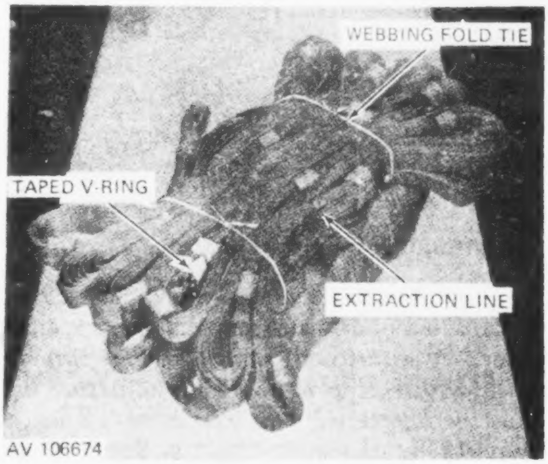


Figure 2–182. Extraction line stowed on extraction parachute deployment bag, typical.

Section X.I. LAPES PARACHUTE PACKING PROCEDURES

2-92.1. Introduction

2-92.2. General

The low-altitude parachute extraction system uses the 15- and 28-foot cargo extraction parachutes. The function of each parachute is as follows:

a. The 15-Foot Cargo Extraction Parachute. The unreefed 15-foot cargo extraction parachute, when used with this system, is a drogue parachute used to deploy the main extraction parachutes. The 15-foot cargo extraction parachute is packed according to the procedures outlined in Chapter 2, section X.

b. The 28-Foot Cargo Extraction Parachute. The 28-foot cargo extraction parachute used in clusters of two or three, act as the main extraction parachute. The LAPES 28-foot cargo extraction parachute is packed according to procedures outlined in Chapter 2, section X, except as indicated herein.

2-92.3. Packing the 28-Foot Cargo Extraction Parachute

2-92.4. Preparation

Place the following equipment on the end of a packing table (figure 2-182.1).

a. Deployment bag, 28-foot (66J1713).

b. Centerline, 41 5-foot.

c. Centerline extension, 10-foot.

d. Offset platform clevis (MS70085-1-DV) with 3/8-inch bolt and 11/16-inch aluminum spacer.

e. Tape, cloth, pressure sensitive adhesive, 2 inches wide, or tape, masking paper, pressure sensitive adhesive, 3 inches wide.

f. Cloth, cotton bunting, 6-inch square (figure 2-182.2).

g. Felt, sheet, non-woven No. 4.

h. Thread ticket No. 3.

i. Thread ticket No. 5.

j. Deployment bag extension handle.

k. Type 1 1/4-inch cotton webbing.

2-92.5. Laying Out Canopy

a. Place parachute assembly on packing table and check vent lines to see if canopy is inverted. If lines do not cross the upper lateral band on the outside of the canopy, the canopy is inverted. Correct an inversion by grasping the bridle loop and passing it between any two adjacent lines.

b. Lay the deployment bag to one side and attach bridle loop to apex hook.

c. Position canopy on table with top center gore up. This gore lies between suspension lines 1 and 30.

d. Attach adapter web to table tension plate and apply sufficient tension to hold canopy and suspension lines on packing table.

e. Separate suspension lines at skirt of canopy into two groups with lines 1 through 15 in left group, and lines 30 through 16 in right group. Place packing weight on one group to keep lines separated.

f. Continue line separation until lines are in two groups from skirt to connector links, removing all turns, tangles and twists from lines as required.

g. Remove packing weight. Raise bottom and top center gores at canopy skirt and trace lines 1, 30, 16 and 15 from skirt to connector links. When all turns, tangles and twists are removed, and lines 1 and 30 are the inside lines on top connector links, and lines 15 and 16 are the inside lines on bottom connector links, the parachute is in proper layout.

h. Dress upper lateral band by aligning top edges of band.

i. Apply sufficient tension at table plate to hold canopy and suspension lines taut.

2-92.6. Folding Canopy

a. Folding Canopy Gores. Fold canopy gores into two groups of 15 gores each as follows:

(1) With left hand, lift right group of suspension lines (lines 30 through 16) at canopy skirt. Place right hand, palm down, on top center gore. Simultaneously, flip right group of lines over left group, and slide right hand with top and bottom center gores toward right side of table.

(2) Release lines and pick up line 16 at canopy skirt with right hand. Move line 16 over edge of table and pick up line 17 with left hand, raising line 17 sufficiently to expose gore 16.

(3) Bring left hand down to right hand, with gore 16 folded neatly to right of table. Place line 17 directly over line 16, holding lines in place with thumb and forefinger of right hand. Continue this procedure for lines 18 through 30.

(4) Take lines 16 through 30 in left hand, being careful to keep lines in order, and scissor lines from top between the middle finger and forefinger of right hand. Rotate lines 16 through 30 one-quarter turn clockwise until line 30 is lying to the right of the group, and line 16 to the left.

(5) Pick up line 1 with left hand and raise line sufficiently to expose top center gore. Bring left hand down to right hand with top center gore folded neatly over right group of gores. Place line 1 between thumb and forefinger of right hand. Continue this procedure for lines 2 through 14.

(6) Grasp gore 14 with left hand at a point approximately 5 inches to right of line 15 and insert elbow of left arm under gore 15. Lower line 15 allowing gore 14 to drape to right of line 15 and gore 15 to drape left. Place line 15 over line 14 between thumb and forefinger of right hand.

(7) With all 30 suspension lines now held by right hand, place line separator on suspension lines, fitting lines 16 through 30 in slot on left, and lines 15 through 1 in other slot. Make certain that base plate of line separator points toward skirt of canopy.

(8) Holding suspension lines and line separator in left hand, grasp all radial seams with right hand approximately 3 feet from lower lateral band and pull canopy away from side of table until all gores drape to side of table.

(9) Slide canopy back onto table, rotating suspension lines and line separator counterclockwise until base plate of line separator is flat on table. Place packing weight across suspension line next to line separator. Adjust tension on canopy and suspension lines at tension plate applying sufficient tension to hold lines taut.

(10) Insert left hand between gores at radial seam 30. Grasp top 15 gores and place them on left side of table. Gore 30 should now be the top gore of the left group.

(11) With the right hand, grasp corners of top 14 gores of right group and fold over corners at a 45-degree angle. Leave corner of bottom gore of right group flat on table. Fold over corners of top 14 gores of left group in a similar manner leaving corner of bottom gore of left group flat on table.

(12) Dress bottom gores of left and right groups of gores. Place fingers of left hand under bottom gore of left group and gently pull on edges of bottom gores. Dress bottom gores from skirt through section 6. Then, working from upper lateral band to folds at lower lateral band, remove wrinkles from top gores, brushing with fingertips from radial seam toward folded edges.

(13) Straighten lower lateral band of left group of gores by pulling on each gore corner as it is placed back on table. Count gores as they are placed on table to make certain that there are 15 gores in the left group. Repeat this procedure for right group of gores.

(14) Lift line 30 and observe channel between the two groups of gores, making certain that channel is clear of all canopy fabric. If channel is not clear, pull gently along folded edges of gores to remove fabric from channel. If channel cannot be cleared in this manner, repeat entire gore folding procedure. Place line 30 back in line separator and release tension on canopy.

(15) Separate the vent lines into two equal groups. Wrap the center of the vent lines with the bunting fabric. Tape both ends of the fabric in place. Attach one end loop of the 10-foot long centerline extension to the taped clevis. Slide the clevis over the separated vent lines centering it on the area wrapped with bunting fabric. Place the clevis spacer in the loop of one end of the 41.5-foot long centerline, then place the end in the clevis and install the bolt as shown in figure 2-182.2. Tape the exposed parts of the clevis and bolt head with 1-inch wide tape. Pick up the centerline extension with the right hand and apply tension. Tape the centerline extension in place on the clevis at the point of alignment. Wrap the clevis with felt and tape as shown in figure 2-182.3.

(16) Grasp the loop on the centerline and insert it through the opening at the upper lateral band. Reach down two slots on the canopy and slide the left hand up the channel. Pull the centerline down to the slot the left hand entered. Change hands and repeat this procedure until the centerline loop extends beyond the lower lateral band (figure 2-182.4).

(17) Extend the centerline on the packing table until all the slack is removed from the line. Pick up the lower lateral band of the parachute and check centerline alignment in the parachute channel.

(18) Using the two-man method, number one man will pick up the centerline loop and apply tension (figure 2-182.5) and number two man will raise the top center gore and keep the canopy dressed at the vent area (figure 2-182.6). Continue this procedure until the centerline loop is even with the confluence point of the parachute adapter web.

(19) Tape the centerline loop over the loop of the parachute adapter web with a double turn of paper masking tape (figure 2-182.7). Place the centerline between the center plies of the parachute adapter web and tape with a double turn of paper masking tape in five places.

(20) Place the centerline between the two groups of suspension lines and tie with a single turn of No. 3 cord at five equal intervals as shown in figures 2-182.8 and 2-182.8.1.

b. *Longfolding Canopy*. The right and left group of gores are folded over the radial seam until the folded canopy is approximately 16 inches wide, the proper width for stowing in the deployment bag. Longfold gores as follows:

(1) Longfold right group of gores by folding edges of first six gore sections over radial seam. Secure sections with packing weights as shown in figure 2-182.9.

(2) Longfold left group of gores adapting procedures as above, securing both groups with packing weights (figure 2-182.10).

(3) Starting at the apex, tie a single turn of No. 3 cord around the folded gores at the center of each panel except the bottom skirt panel (No. 1 panel) and the panel containing the offset clevis. The offset clevis will not always be within panel No. 4.

2-92.7. Stowing Canopy.

Pass the centerline extension through the slot at the top of the deployment bag. Pull 36 inches through the slot (figure 2-182.11). Stow canopy into bag with S-folds as follows:

a. Make first stow of canopy at upper right corner of deployment bag. Make second stow in upper left corner of bag and continue to make stows across width of bag until canopy is completely stowed. When the canopy is completely stowed, the suspension lines should extend from the left side of the deployment bag (figure 2-182.12).

b. Fold suspension lines from left to right across skirt of stowed canopy. Pass a length of doubled ticket No. 3 cotton thread under suspension lines through the tie loops on inside of deployment bag and across the top of lines. Tie ends of thread with surgeon's knot and locking knot (figure 2-182.13).

2-92.8. Stowing Suspension Lines

a. Form first suspension line stow at upper right corner of stowage flap. Secure with rubber retaining band.

b. Form and secure second stow at upper left corner of stowage flap as shown in figure 2-182.14.

c. Continue stowing suspension lines on stowage flap from left to right alternately until lines are stowed to within 4 to 10 inches of connector links as shown in figure 2-182.15.

2-92.9. Closing Deployment Bag

a. Position adapter web across stowed suspension lines on left side of stowage flap (figure 2-182.16). Fold one stow of adapter web across open end of deployment bag.

b. Fold right and left sides of suspension line stowage flap over stowed suspension line and over end of adapter web. Tack with single turn No. 3 thread as shown in figure 2-182.17.

c. Tightly roll suspension line stowage flap into open end of deployment bag making sure that the adapter web extends from left side of the bag.

d. Position adapter web lengthwise across rolled suspension line stowage flap from left to right, insuring that 28 inches of adapter web remain clear of the ties. Make left deployment bag closing tie with one turn single, 1/4-inch cotton webbing. Pass end of 1/4-inch cotton webbing through left bottom bag, closing loop from right to left, up behind the adapter web through the top left bag closing loop from left to right and join the webbing on top of the adapter web with a surgeon's knot and locking knot. Trim tie ends to 2 inches.

e. Make right deployment bag closing tie with one turn single, 1/4-inch cotton webbing, pass one end of the 1/4-inch cotton webbing through the right bottom bag closing loop from left to right, up behind the adapter web, up through the right side bag grommet, through the top right bag closing loop from right to left and join the webbing on top of the adapter web with a surgeon's knot and locking knot. Trim tie ends to 2 inches.

2-92.10. Deployment Bag Figure Eight Safety Tie

a. Thread the running ends of a 36 inch long piece of 1/2 inch tubular nylon through the bag bottom and top right closing loops from outside to inside. Equalize the ends and thread both ends through the cutter knife between the blade and the reinforcing safety bar. Cross the tubular nylon at the knife and thread the end from the bottom right closing loop through the bag top left closing loop. Thread the end from the bag top right closing loop through the bag bottom left and top left closing loops. Thread a 12 inch long piece of 1/4 inch cotton webbing through the cutter knife above the reinforcing safety bar. Draw the figure eight as tight as possible and secure to the bag top left closing loop with a surgeon's knot and locking knot with overhand knots in the running ends. Tie the figure eight crossover to the reinforcing safety bar of the cutter knife with the length of 1/4 inch cotton webbing that was threaded through the knife prior to tying the bag closed (Figure 2-182 18).

b. Attach a 30 inch length of 9/16 inch tubular nylon for a lanyard to the cutter knife using three alternating half hitches and an overhand knot in running end.

NOTE

Tape the portion of the lanyard which runs through the hole of the cutter knife with pressure sensitive tape.

CAUTION

Insure lanyard is shorter than adapter web when extended.

c. Tape pendulum safety line to the bottom panel of the deployment bag.

d. Position a 5-1/2-inch two-point clevis on center top of parachute and secure in place with two lengths of doubled 1/4-inch cotton webbing. Webbing goes inside of bolts and secured to tie down loops with half hitches as shown in figure 2-182.37.

e. Attach using a bowline knot, a 1-inch tabular nylon webbing (breakline) to bolt closest to closed end of deployment bag. Length of breakline should be approximately the same as the deployment extension handles.

f. Attach adapter web to bolt closest to closed end of deployment bag.

g. Attach the cutter knife lanyard to the bolt at the closed end of the deployment bag using three alternating half hitches and an overhand knot in the runner end. Then attach the adapter web loop to the bolt at the closed end of the D-Bag.

CAUTION

Insure that the lanyard is not less than 14 inches or more than 16 inches from the end of the cutter knife to the inside of the bolt, finished length when the 2 point link is centered on the D-Bag

h. Remove the Army Parachute Log Record (DA Form 10-42 or DA Form 3912) from the parachute inspection data pocket (log record pocket) on the upper end of the deployment bag and record the pack data as prescribed in TM 10-1670-201-23/T.O. 13C-1-41. Upon completion of the entries, return the record to the pocket.

2-92.10A. Installing Deployment Bag Extension Handle.

a. Using a parachute connector link, connect a 27-inch extension handle to the deployment bag handles. Tape the connector link as shown in figure 2-182.22.

b. Install tow plate clevis as outlined in paragraph 2-92.24.

2-92.11. Packing a Cluster of Two 28-Foot Cargo Extraction Parachutes

2-92.12. Preparation

Pack two 28-foot cargo extraction parachutes in accordance with the procedures outlined in paragraph 2-92.3 through completion of the figure eight deployment bag closing tie (figure 2-182.18).

2-92.13. Joining Deployment Bags

a. Place the deployment bags on top of each other, invert the top deployment bag to insure that the parachute adapter webs deploy from opposite sides of the parachute assemblies (figure 2-182.19).

b. Thread a double turn of 550-pound nylon suspension line through the deployment bag cluster loops at each top corner of the bottom parachute and each bottom corner of the top parachute.

c. Secure all corners with a surgeon's knot and a locking square knot.

d. Fold the deployment bag safety line back on the parachutes and tape securely with paper masking tape.

2-92.14. Installing aFour-Point Clevis

Install the four-point separator clevis as follows:

a. Position the four-point separator clevis on top parachute with extraction pin facing open end of deployment bags (figure 2-182.20).

b. Thread two 5-foot lengths of doubled 1/4-inch cotton webbing between the center pin and the two outside pins and secure at each corner of deployment bag.

NOTE

Keep 1/4-inch cotton webbing from under bushings.

c. Attach the two parachute adapter web loops and centerline loops around the bushings on the two outside pins of the four-point clevis.

d. Attach the two cutter knife lanyards to center pin of four-point clevis.

CAUTION

Insure lanyards are shorter than adapter webs when extended.

e. Using a 6-foot length of 4000-pound tubular nylon webbing as a breakline, attach one end to center pin of four-point clevis.

f. Install top plate on four-point clevis and fold excess breakline as shown in figure 2-182.21.

g. Record pack data on DA Form 10-42 or DA Form 3912 as outlined in TM 10-1670-201-23.

2-92.15. Installing Deployment Bag Extension Handles

a. Using a parachute connector link, connect a 27-inch extension handle to deployment bag handles of each parachute. Tape the connector link as shown in figure 2-182.22.

b. Install tow plate clevis as outlined in paragraph 2-92.24.

2-92.16. Packing a Cluster of Three 28-Foot Cargo Extraction Parachutes

2-92.17. Preparation

a. Utilizing a plain, manila tag, record the manufacturer's serial number of each canopy. Record the date packed and sign the tag. Tie the tag to one of the carrying handles of the G-12D deployment bag. Pack three 28-foot cargo extraction parachutes, as prescribed in paragraph 2-92.3, up to the point of stowing the parachute in the deployment bag.

2-92.18. Stowing the Canopy in the Deployment Bag

a. With the centerline extensions folded back on the parachutes, move the three canopies side by side, dressing the tops and bottoms of each. Position the G-12D deployment bag at the top of the three parachutes lining up the center of the deployment bag with the center of the three parachutes as shown in figure 2-182.23.

b. Tie a strip of red bunting fabric to the adapter web loop of the center parachute to identify it for proper clevis attachment.

c. Group the three centerline extensions and thread them through the bottom of the deployment bag out through the slot in the top of the bag. Pull 36 inches of each centerline extension through the slot (figure 2-182.24). Tie a piece of red bunting fabric to the centerline extension that is attached to the center parachute. (The red bunting fabric identifies the proper parachute for drogue attachment covered in aircraft rigging procedures.) Align the loops of the three centerline extensions with the loop of the G-12D deployment bag bridle loop.

d. Move the vent area of the three parachutes to the end of the packing table. Slide the suspension line stowing flap underneath the three parachutes and let the deployment bag hang down to the floor (figure 2-182.25). Stow the excess centerline extension across the inside top of the deployment bag.

e. Using the three-man method, stow the three canopies in the deployment bag. Number one man grasps the three parachutes approximately 12 inches down from the vent. Number two man holds both left hand corners, and number three man holds both right hand corners of the deployment bag. The number 1 man "S"-stows the canopies in the bag starting in the left hand corner. When the three canopies have been placed in the deployment bag, the number 1 man compresses the canopies while the number 2 and number 3 men hold the deployment bag. S-fold approximately 8 feet of suspension lines on top of canopy skirt.

f. Close the deployment bag flap and thread the two locking loops through the appropriate slots. With all of the slack removed from each parachute's suspension and centerlines, the number 2 man makes a 5-inch locking loop stow from the right hand parachute suspension lines. Do not include centerline in this stow. Pull the stow through the locking loop with a length of 550-pound suspension line as a pull cord (figure 2-182.27). Make the left side locking stow using the suspension lines from the left side parachute (figure 2-182.28). Form a loop from the right side parachute centerline corresponding in size to the right side locking loop stow. Tie the centerline loop to the locking loop with a double turn of ticket No. 5 cotton thread. Repeat the same procedure for the left side centerline loop (figure 2-182.29).

g. Form a 6-inch long loop of suspension line and centerline from the center parachute. Form a bite and tie with a double turn of ticket No. 5 cotton thread.

h. Tuck the center parachute suspension lines and centerline stow under the deployment bag flap between each locking loop stow (figure 2-182.30).

i. The first stow of suspension lines should be to the upper right hand corner of the stow flap. Each stow should include three groups of suspension lines and three centerlines. Tie each stow to the stow flap loop with a turn of 1/4-inch cotton webbing. The last full stow is made in the lower right hand corner of the stow flap. Place the adapter webs across the bottom of the stow flap and secure to the flap loop with a turn of 1/4-inch cotton webbing. The connector links should be centered on the stow flap (figure 2-182.31).

j. Roll the stow flap as tightly as possible and position it in the open end of the deployment bag. Working around the deployment bag open end, gradually force the rolled stow flap down into the deployment bag.

k. Lay the adapter webs and three centerlines across the rolled stow flap from right to left. Straighten both right and left side pack closing flaps. Thread a double turn of 1/4-inch cotton webbing through the tab on the left side end flap. Equalize the ends. Thread the cotton webbing held in the left hand through the bottom V-tape, through the tab on the right side end flap from bottom to top, join ends and secure with a surgeon's knot and a locking square knot (figure 2-182.32) and trim excess webbing.

2-92.19. Figure Eight Deployment Bag Closing Tie

a. Thread one end of a 60-inch length of 1/2-inch tubular nylon webbing through the deployment bag top and bottom right side closing loops. Thread both ends of the nylon webbing through a cutter knife. Cross the nylon webbing at the knife. Thread the loose end from the top right side closing loop, up through the bottom left side closing loop from left to right. Thread the end of the nylon webbing from the bottom right side closing loop through the top left side closing loop. Tie by pulling both loose ends of the nylon tape. Secure the top right side closing loop with a surgeon's knot and a locking knot. Tie a slip knot in each loose end and trim off excess material.

b. Tie the figure eight crossover to the reinforcing bar of the cutter knife with a turn of 1/4-inch cotton webbing.

c. Attach one end of a 40-inch long, 1500-pound tubular nylon lanyard to curved end of the cutter knife with a surgeon's knot and locking knot as shown in figure 2-182.33.

2-92.20. Attaching Cluster Risers

Using a type IV link assembly, attach a cluster riser to each adapter web. Tape all exposed metal of each link (figure 2-182.34). Attach a piece of red bunting fabric to center riser. Number each cluster riser to identify them while stowing the risers in the deployment bag. This will insure proper riser stowage.

2-92.21. Connecting Lanyard

Make a hole through the tape on center type IV links.

CAUTION

Tape lanyard so pull will not be against removable side plate. Also lanyard must be shorter than adapter webs (approximately 30 inches).

2-92.22. Stowing Cluster Risers

Stow the cluster risers in the riser stowage compartment. Secure cluster riser stows at the top and bottom of the deployment bag with five turns of 1/4-inch cotton webbing as shown in figure 2-182.35. Approximately 36 inches of the three cluster risers should remain after the stows are made for attachment to the four-point clevis.

2-92.23. Attaching Four-Point Clevis

a. Position four-point clevis on top of parachute and secure in place with two lengths of doubled 1/4-inch cotton webbing.

NOTE

Do not let webbing get under bushings.

b. Attach a 6-foot length of 4000-pound tubular nylon webbing (breakline) to center pin of clevis.

c. Place the cluster riser loops over the three pins of the four-point clevis. Cluster riser with red fabric goes over center pin.

d. Replace clevis cover as shown in figures 2-182.35 and 2-182.35.1.

e. Install tow plate clevis as outlined in paragraph 2-92.24.

2-92.24. Installing Tow Plate Clevis

See figure 2-182.34 for tow plate clevis assembly.

a. Installing tow plate clevis to one 28-foot cargo extraction parachute.

(1) Position tow plate clevis flat side down with "T" block toward parachute. Remove top bolt and sleeve from the tow plate clevis and attach the running end of the 1-inch tubular nylon breakline using a surgeon's and locking knot. Breakline length when extended should be approximately the same as the deployment bag extension handles (figure 2-182.37).

(2) Place the centerline extension loop over the deployment bag extension handle sleeve with breakline attached into the deployment bag bridle loop.

(3) Replace sleeve and bolt into tow plate clevis and tighten nut flush with side plate.

b. Installing tow plate clevis to two packed 28-foot cargo extraction parachutes.

(1) Position tow plate clevis flat side down with "T" block toward parachute. Remove top bolt and sleeve from the tow plate clevis and attach the running end of the 4000-pound tubular nylon breakline using a surgeon's knot and locking knot. Breakline length when extended should be approximately the same length as the deployment bag extension handles (figure 2-182.38).

(2) Looking from the bottom of parachutes from the left side, insert sleeve with breakline attached into loops of bottom and top parachute extension handles. Position loop of top parachute centerline extension over extension handles and tape.

(3) Replace sleeve and bolt into tow plate clevis and tighten nut flush with side plate.

(4) Secure bottom parachute centerline extension to the right side of top bolt of tow plate clevis with one turn double of 1/4-inch cotton webbing.

c. Installing tow plate clevis to three packed 28-foot cargo extraction parachutes in a G-12D deployment bag.

(1) Position tow plate clevis flat side down with "T" block toward parachute. Remove sleeve from the top bolt of tow plate clevis and attach the running end of the 4000-pound tubular nylon breakline using a surgeon's knot and locking knot to the sleeve. Breakline when extended should be approximately the same length as the deployment bag bridle loop (figure 2-182.39).

(2) Looking from the bottom of parachute, from the left side, insert sleeve with breakline attached into deployment bag bridle loop and reinforcement loops. Position No. 2 centerline extension over deployment bag extension handle and tape.

(3) Replace sleeve and bolt into tow plate clevis and tighten nut flush with side plate.

(4) Secure No. 1 centerline extension to right side of top bolt of tow plate clevis with one turn double 1/4-inch cotton webbing and No. 3 centerline extension to left side of top bolt with 1/4-inch cotton webbing one turn double.

2-92.25. Maintenance of Additional LAPES Components

a. Maintenance for the centerline and centerline extension will be as prescribed for riser extensions except that no splicing will be permitted.

b. Maintenance for the tow plate clevis will be the same as prescribed for link assemblies. The knife parachute bag maintenance will be as prescribed for V-rings.

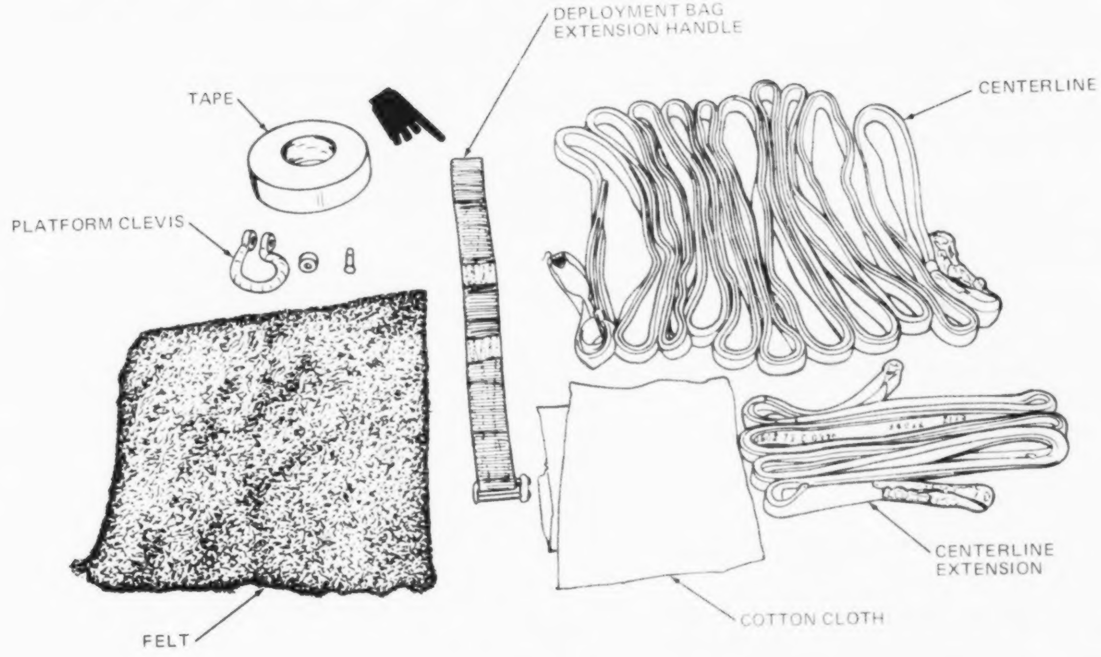

DEPLOYMENT BAG
EXTENSION HANDLE
TAPE
CENTERLINE
PLATFORM CLEVIS
CENTERLINE
EXTENSION
COTTON CLOTH
FELT

Figure 2—182.1. LAPES parachute packing components.

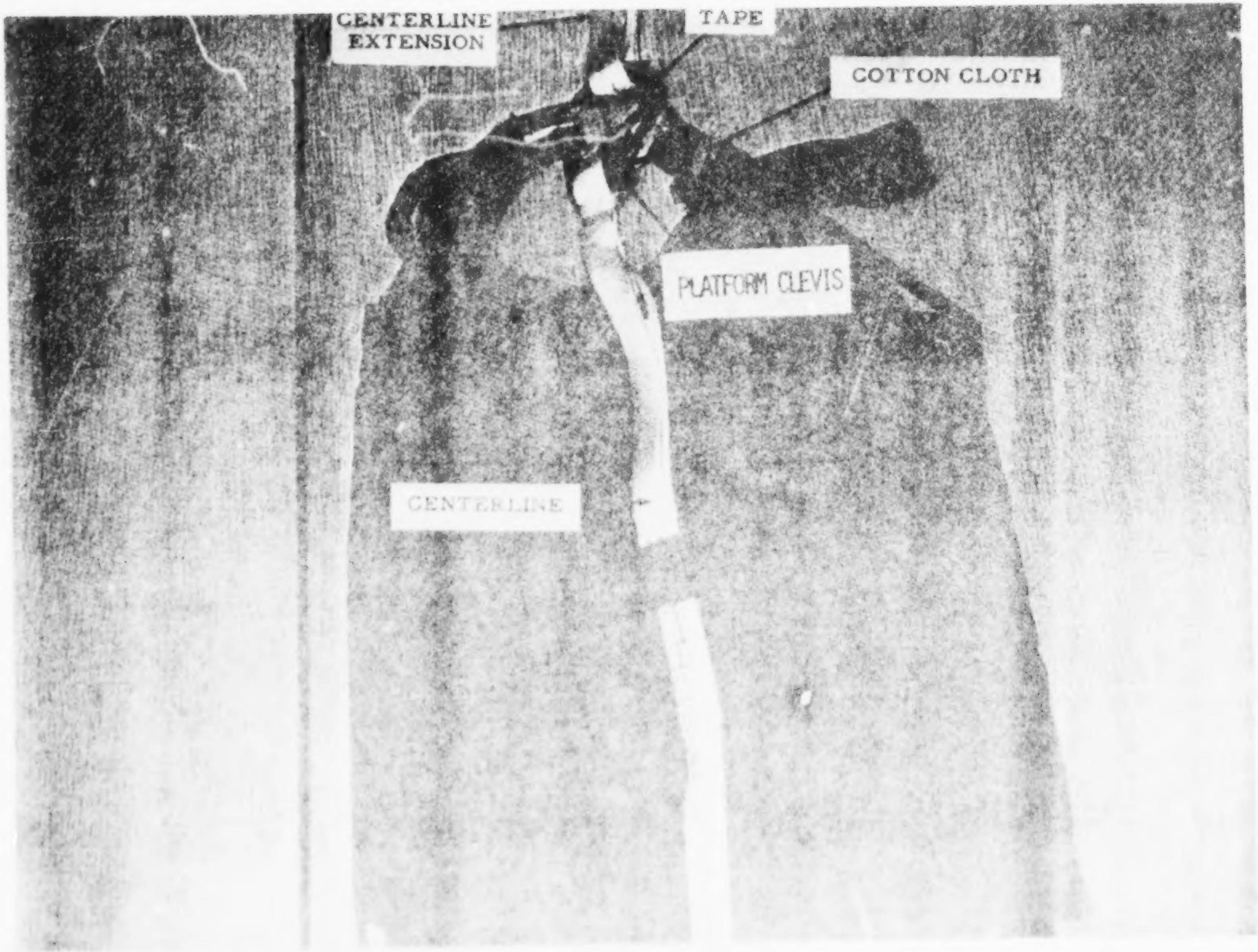

CENTERLINE EXTENSION
TAPE
COTTON CLOTH
PLATFORM CLEVIS
CENTERLINE

Figure 2-182.2. Centerline and extension connected at apex.

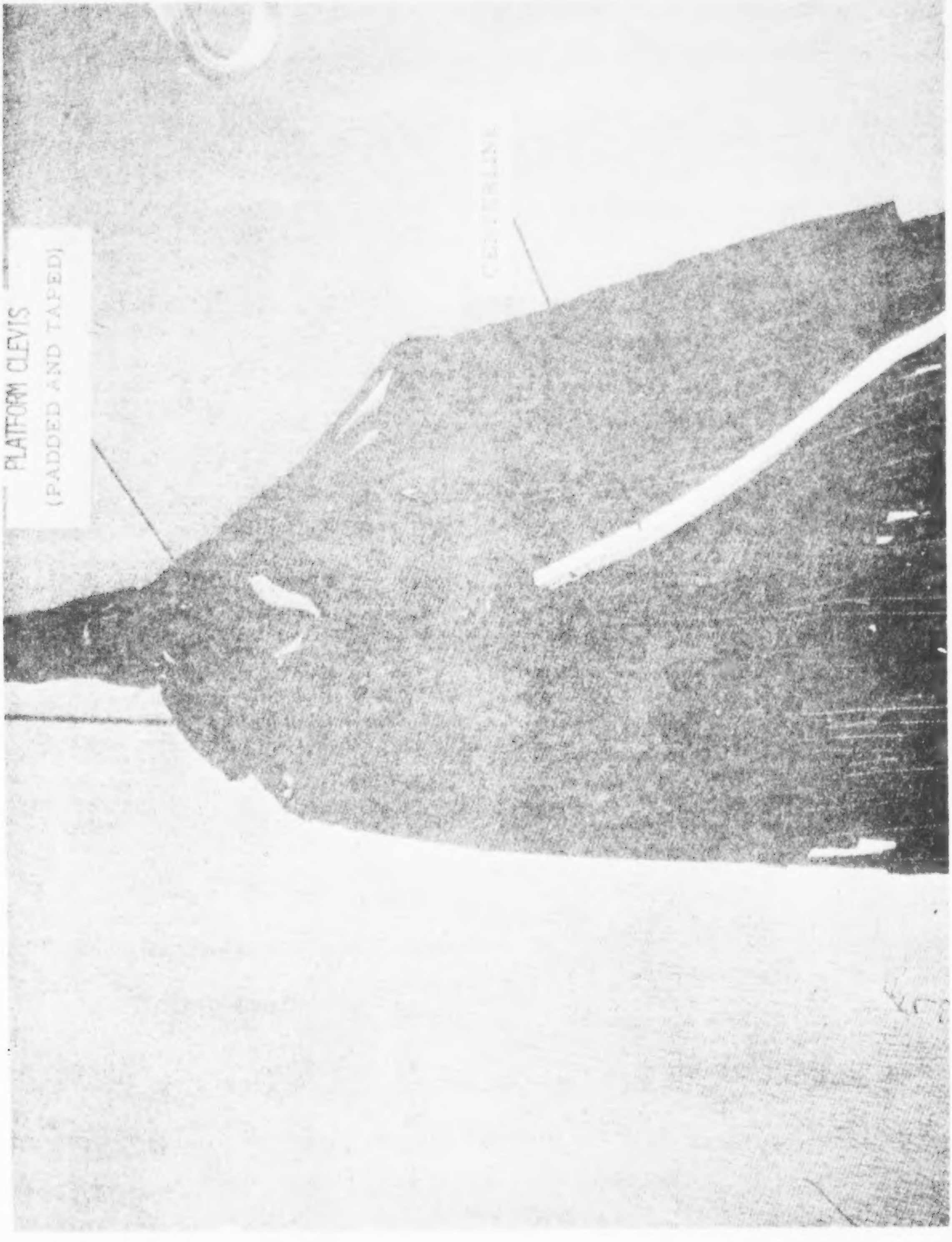

PLATFORM CLEVIS
(PADDED AND TAPED)
CENTERLINE

Figure 2-182.3. Clevis wrapped with felt and taped.

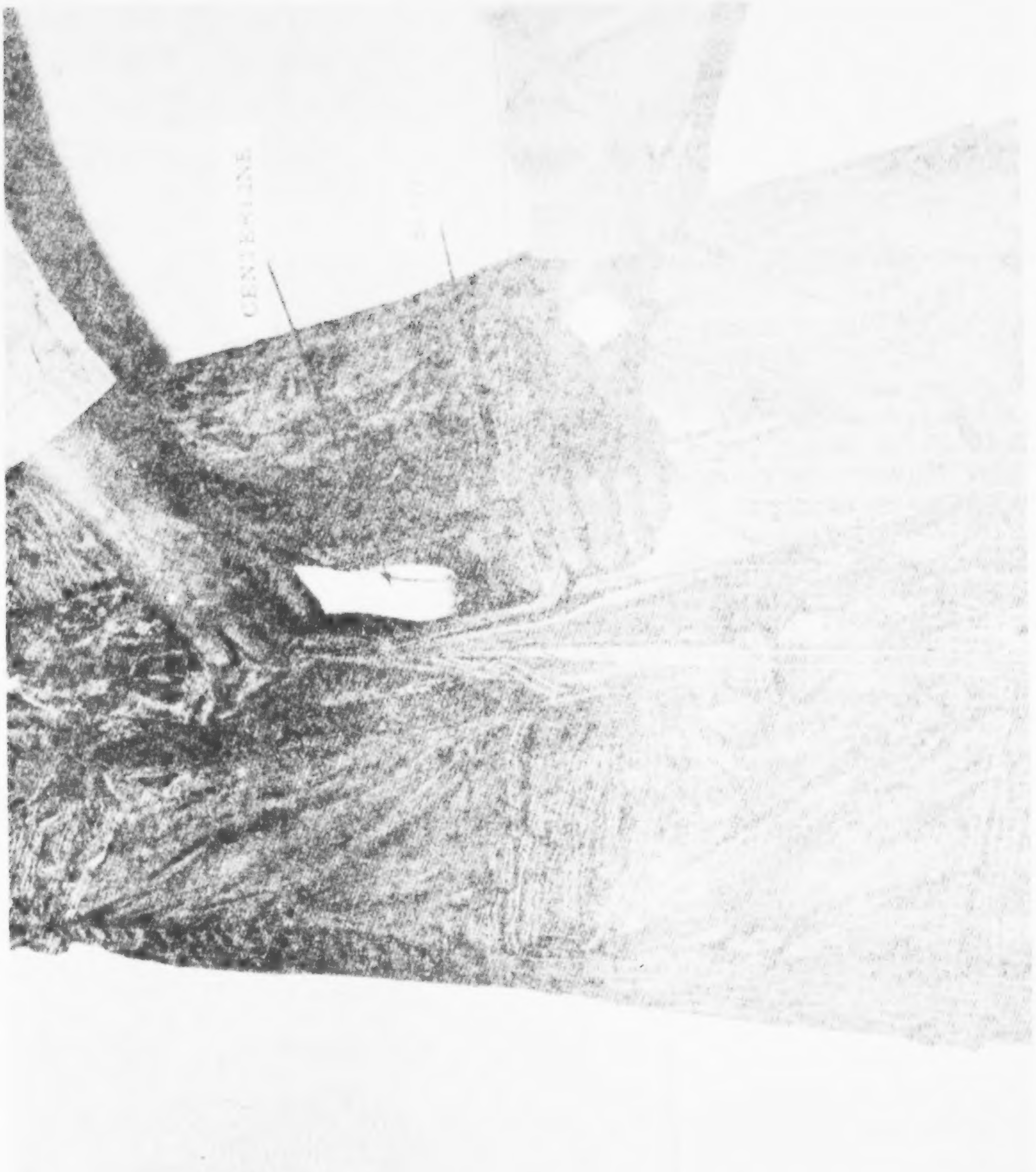


Figure 2-182.4. Threading centerline down parachute channel.

Figure 2-182.5. Pulling vent area down.

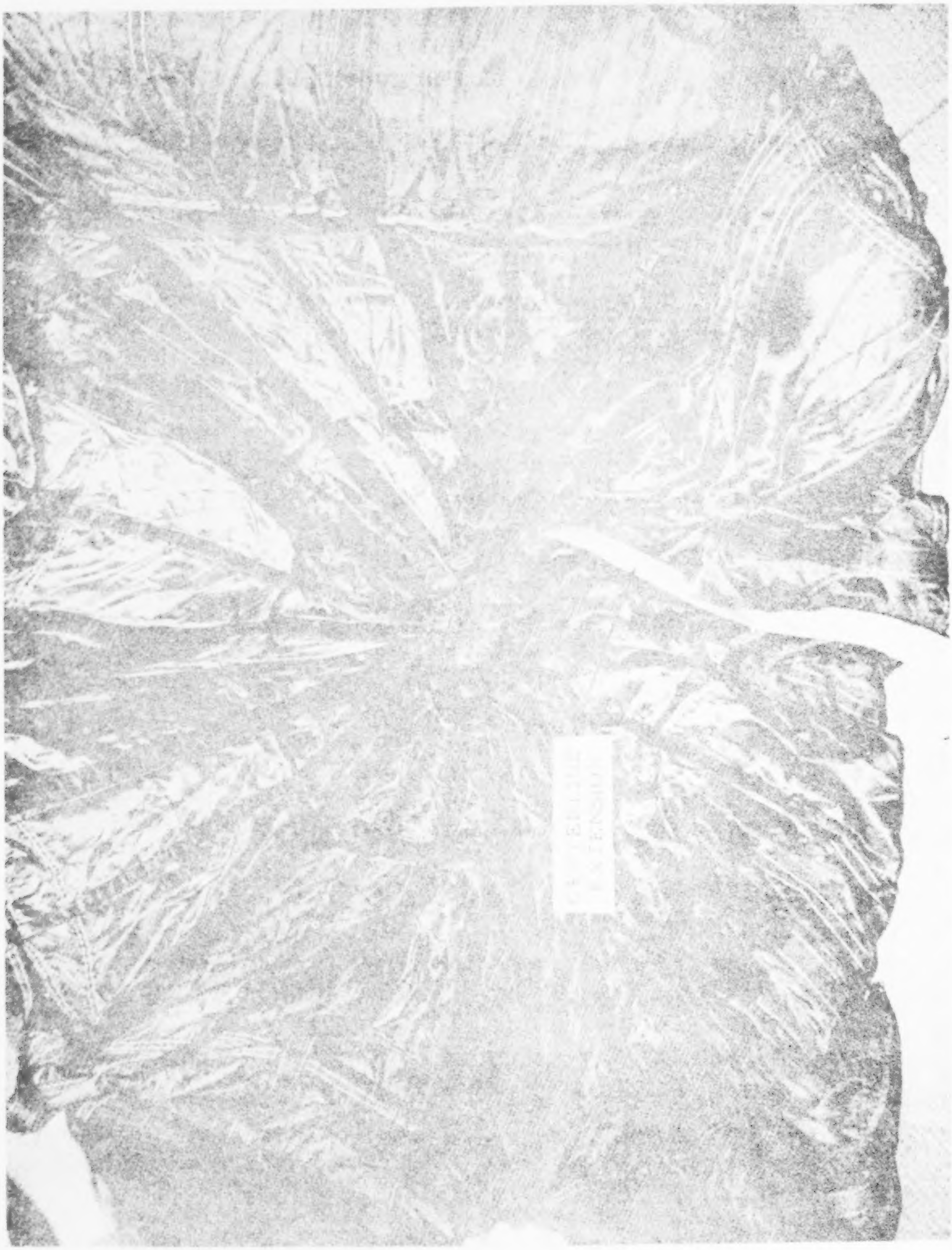


Figure 2-182.6. Keeping vent area dressed.

ADAPTER WEB
CENTERLINE

Figure 2-182.7. Centerline loop over adapter web loop.

Figure 2-182.8. LAPES parachute line ties, group separation at canopy skirt.

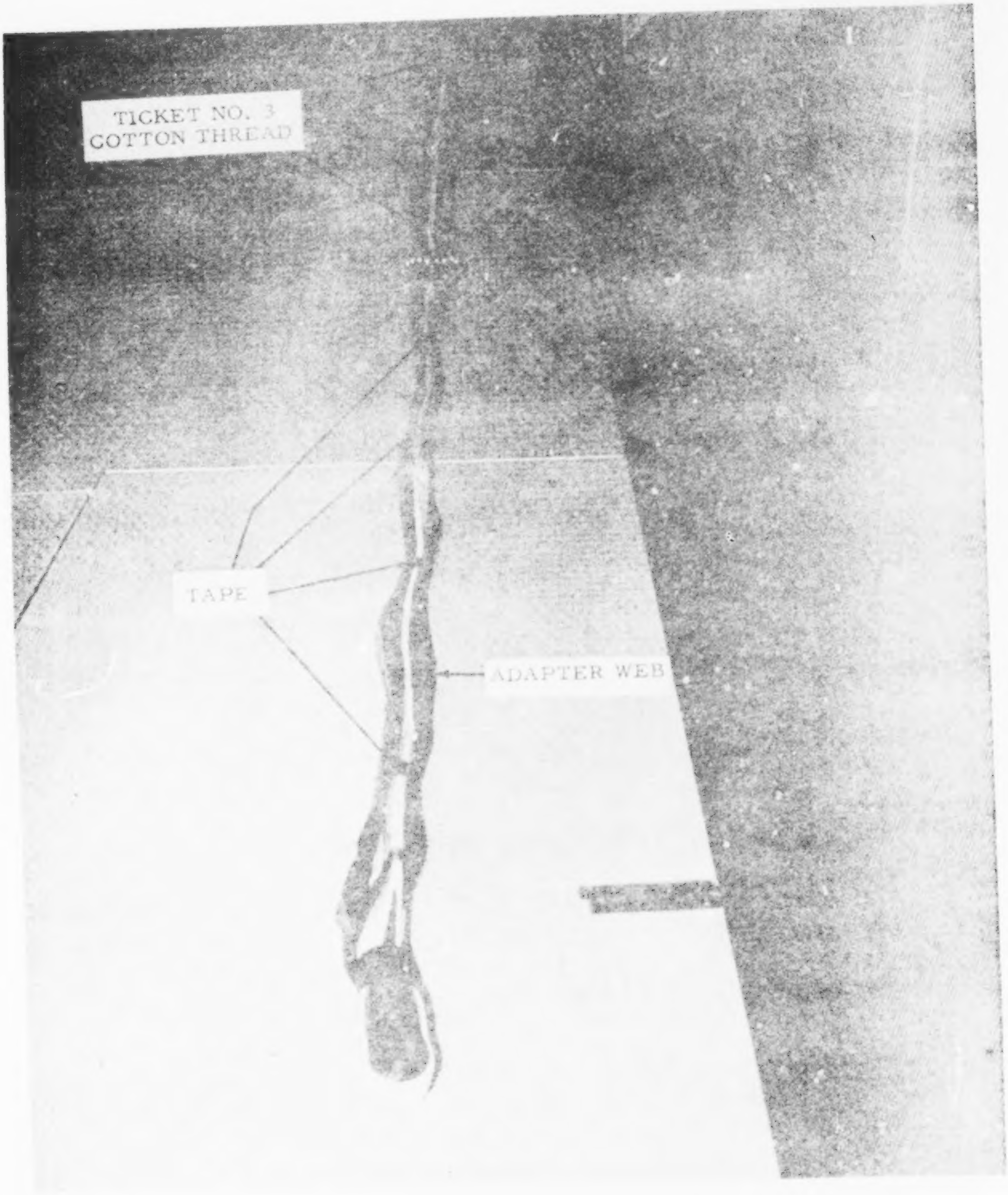

TICKET NO. 3
COTTON THREAD
TAPE
ADAPTER WEB

Figure 2-182.8.1. LAPES parachute line ties, group line ties

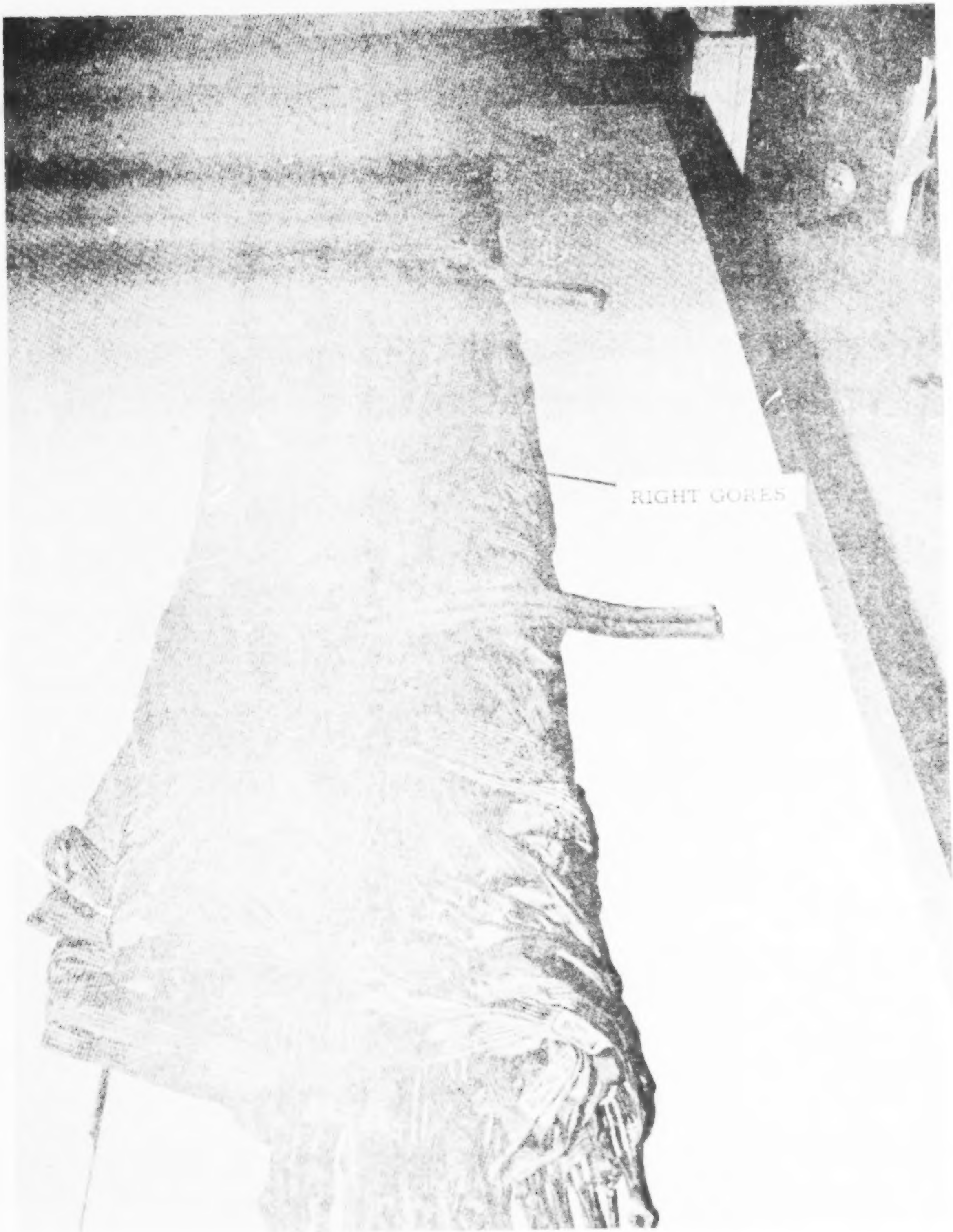

RIGHT GORES

Figure 2-182.9. Right group of gores folded for longfold.

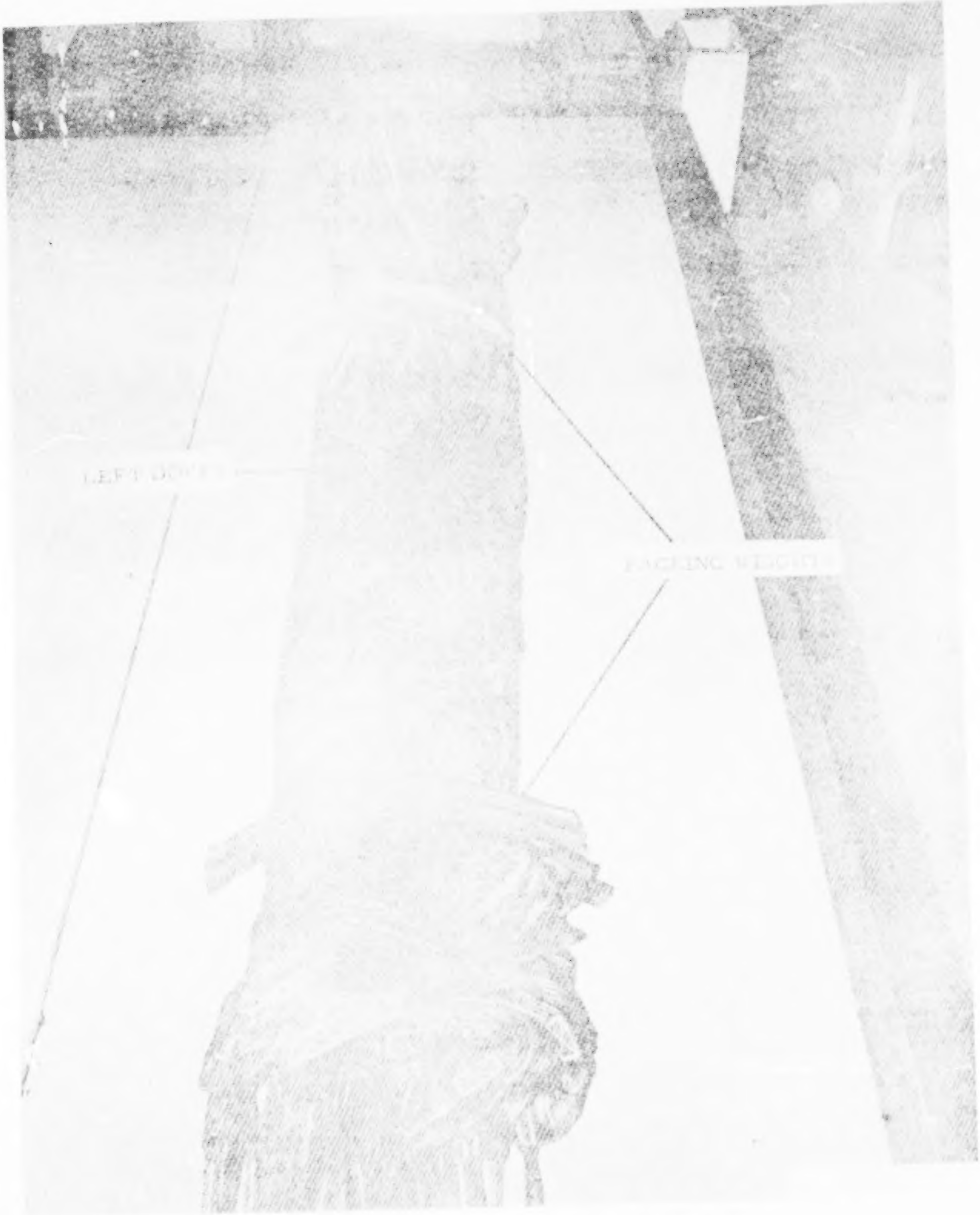

LEFT DOWN
PACKING WEIGHTS

Figure 2-182.10. Canopy longfolded.

CENTERLINE
EXTENSION

Figure 2-182.11. Centerline [illegible] *Bag.*

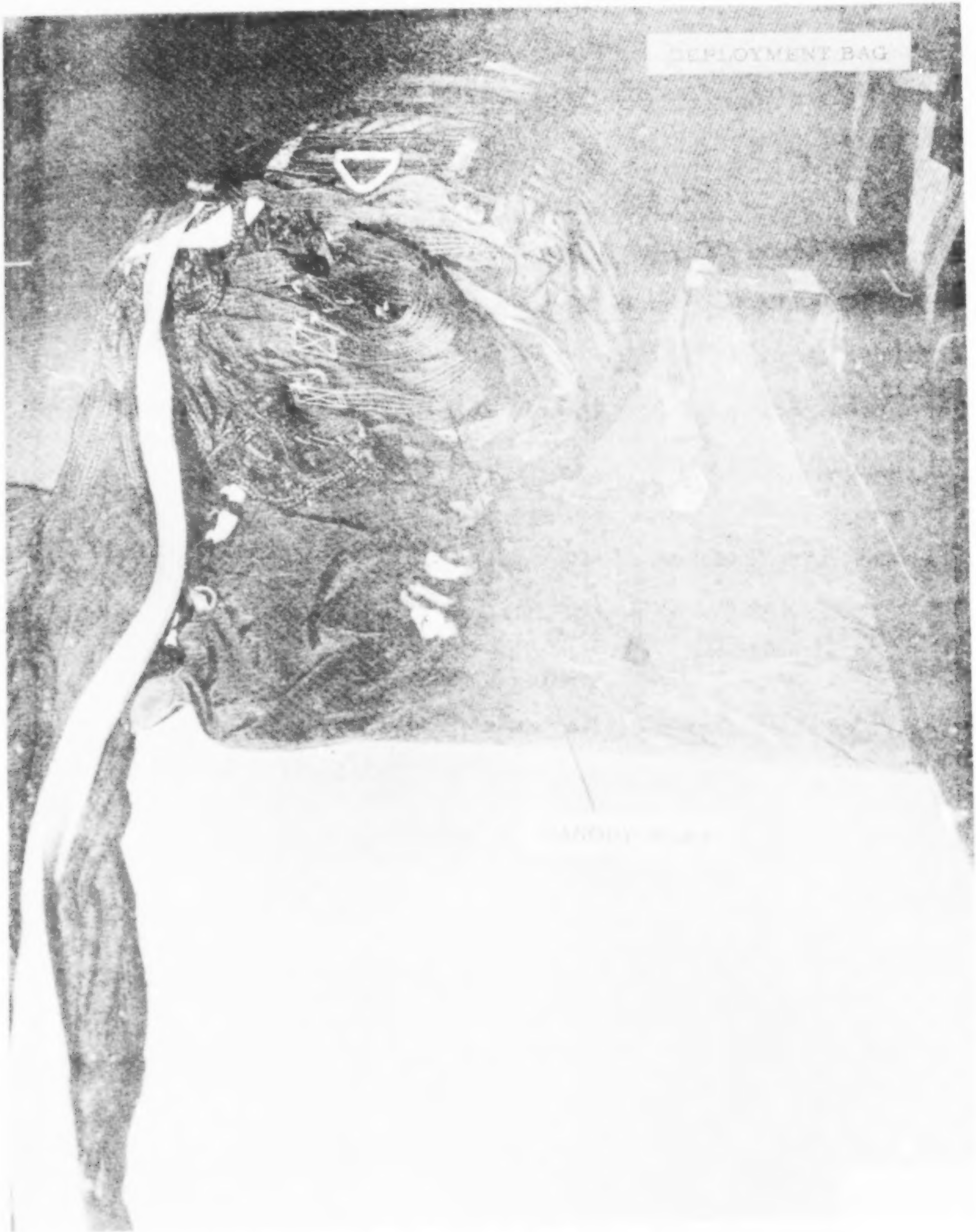

DEPLOYMENT BAG
CANOPY

Figure 2-182.12. Canopy stowed in deployment bag.

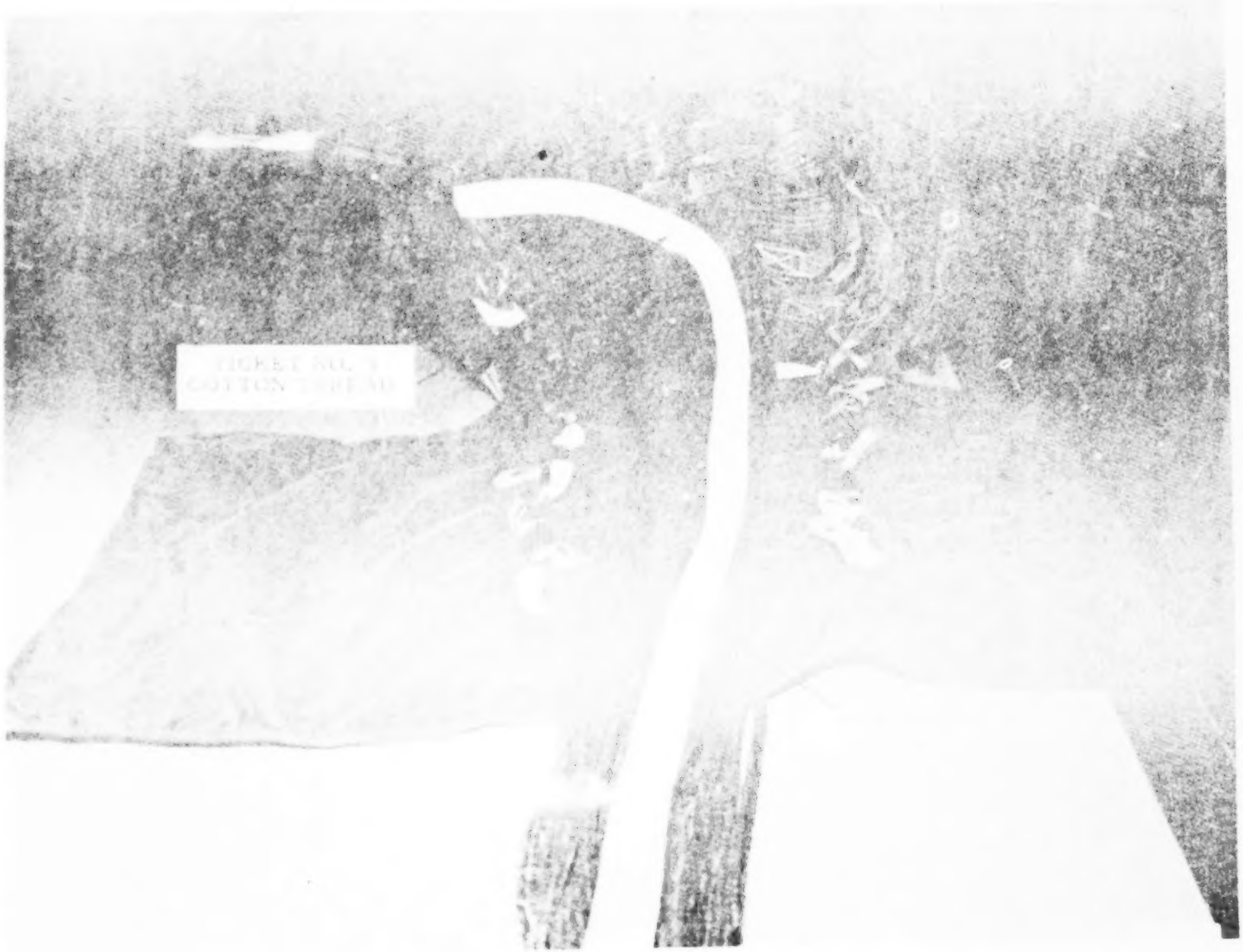

TICKET NO. 1
COTTON THREAD

Figure 2-182.13. Deployment bag tie.

Figure 2-182.14. Second stow completed.

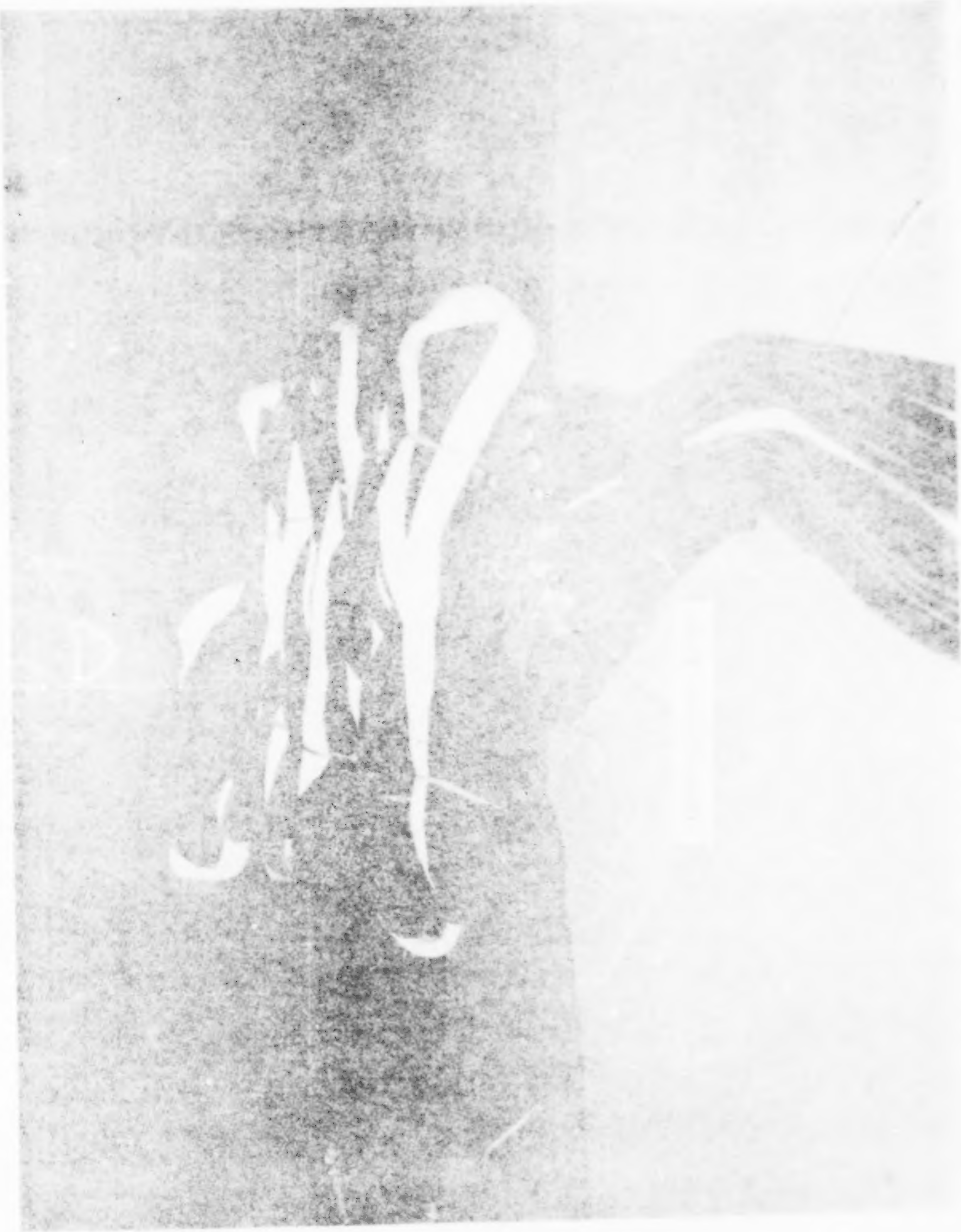


Figure 2-188.15. Suspension lines stowed.

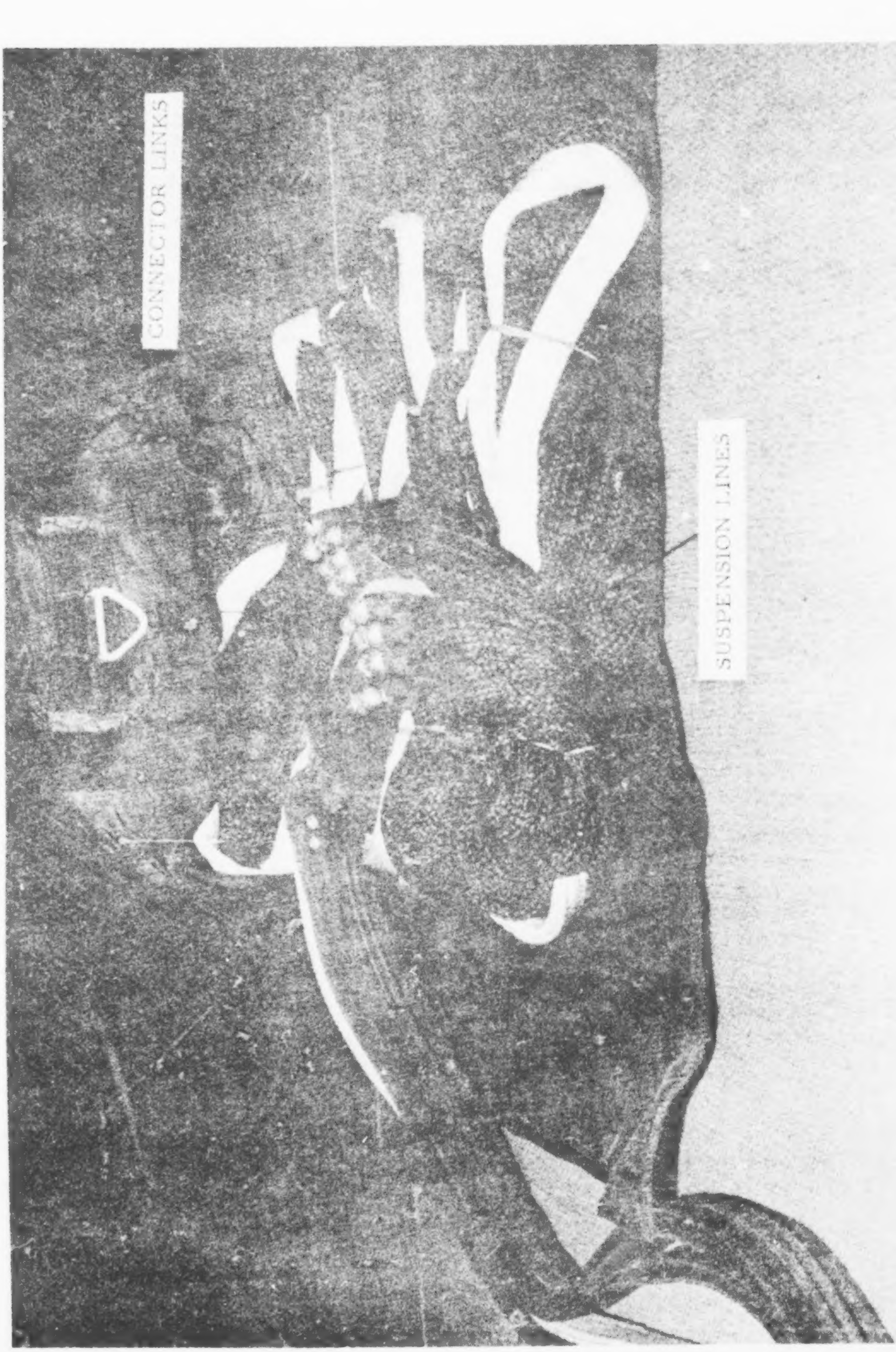

CONNECTOR LINKS
SUSPENSION LINES

Figure 2-182.16. Adapter web folded across suspension lines.

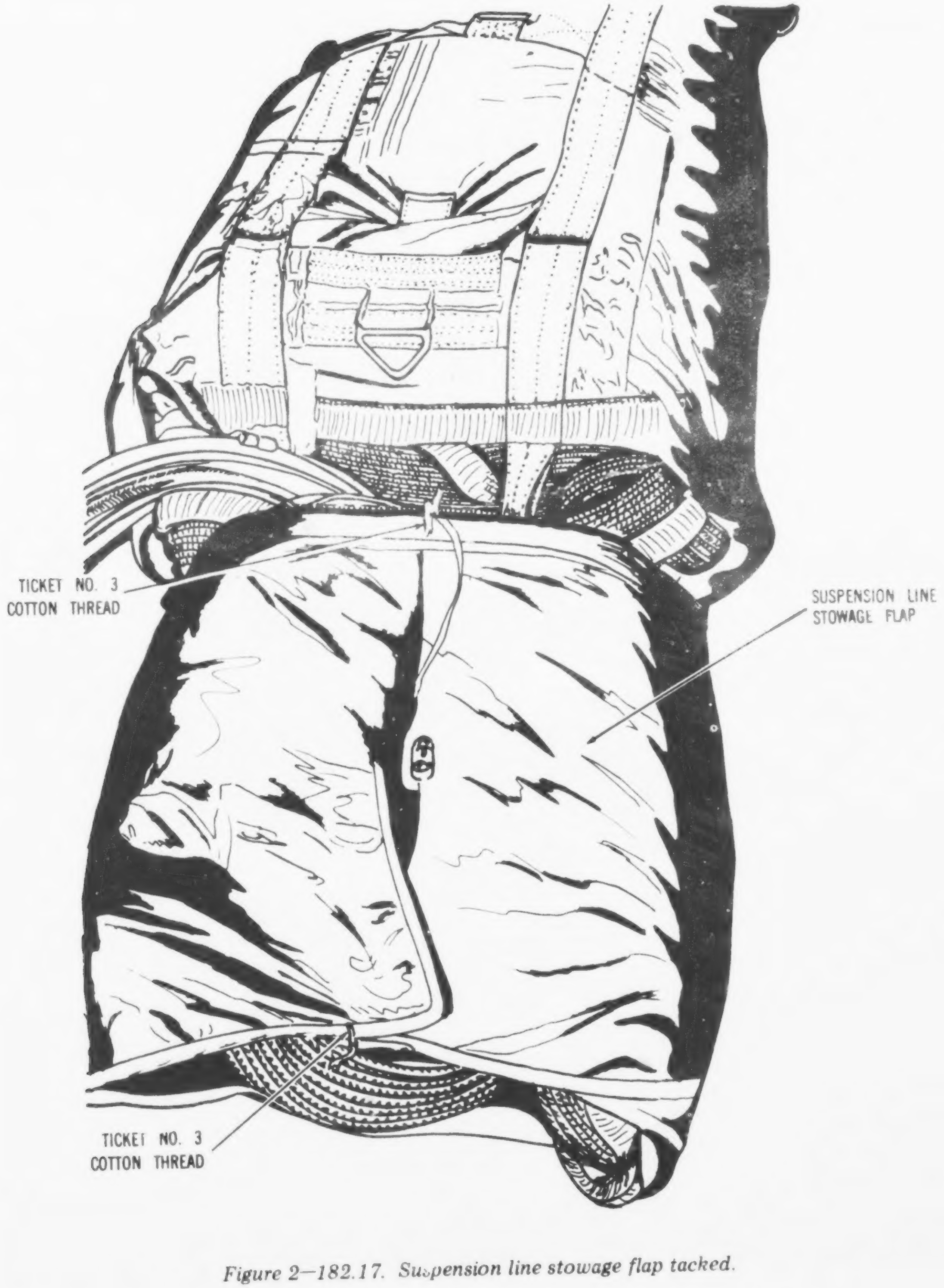

TICKET NO. 3
COTTON THREAD
SUSPENSION LINE
STOWAGE FLAP
TICKET NO. 3
COTTON THREAD

Figure 2—182.17. Suspension line stowage flap tacked.

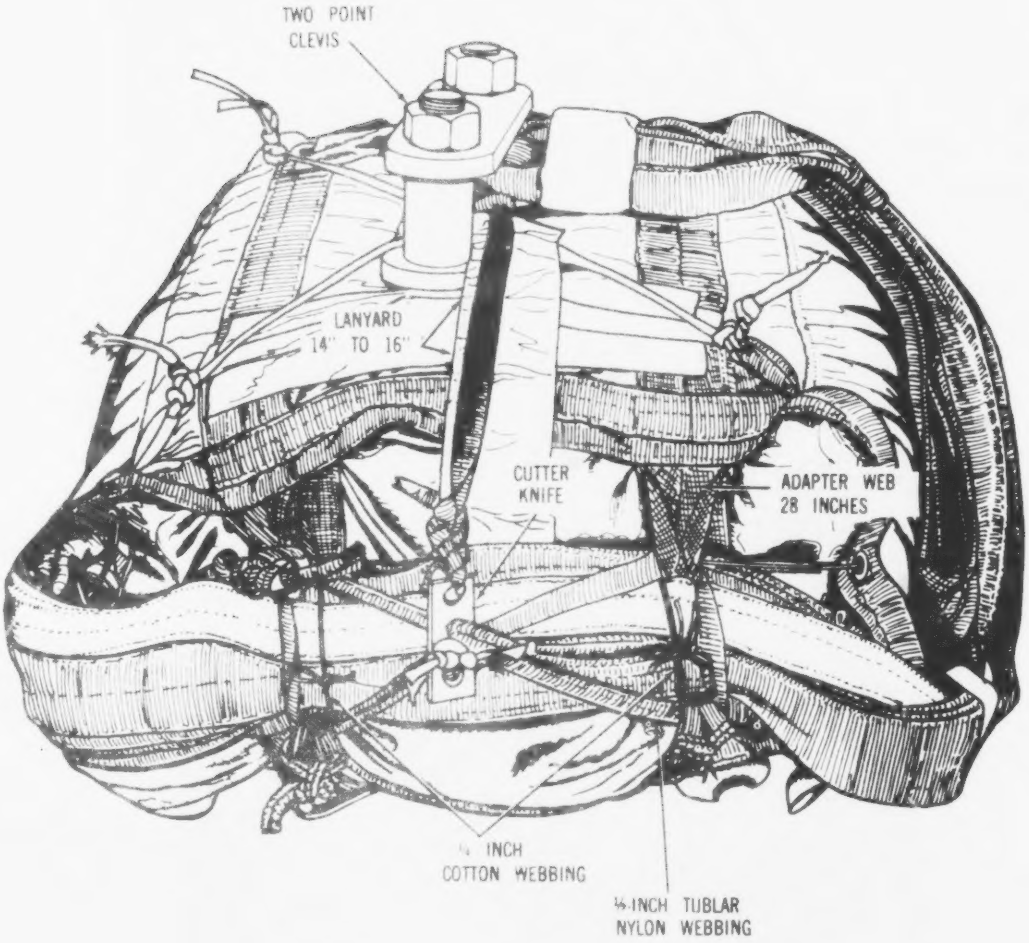

TWO POINT CLEVIS
LANYARD 14" TO 16"
CUTTER KNIFE
ADAPTER WEB 28 INCHES
¼ INCH COTTON WEBBING
½-INCH TUBLAR NYLON WEBBING

Figure 2—182.18. Figure eight safety tie, cutter knife and lanyard installed.

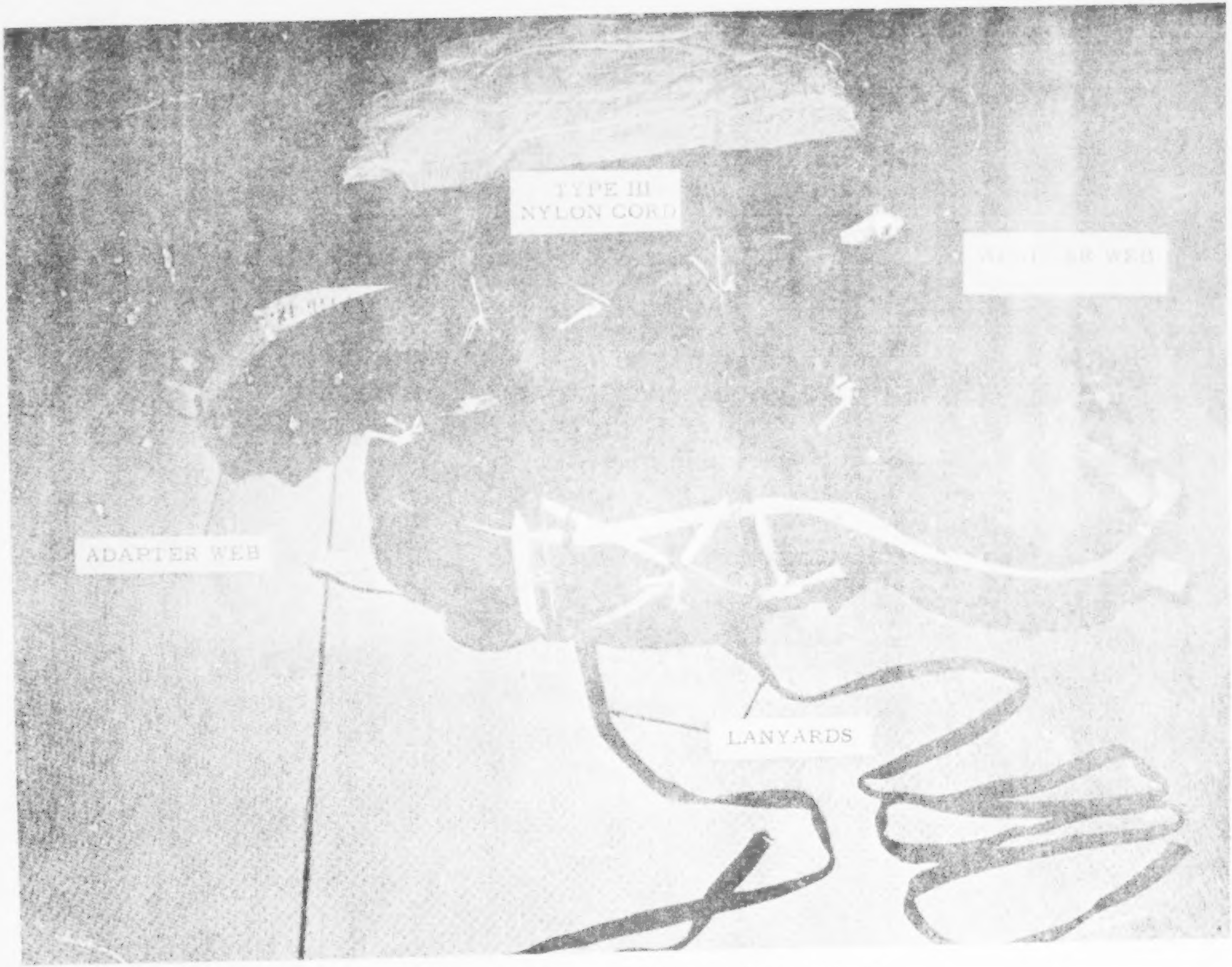

TYPE III
NYLON CORD
ADAPTER WEB
ADAPTER WEB
LANYARDS

Figure 2-182.19. Deployment bags joined.

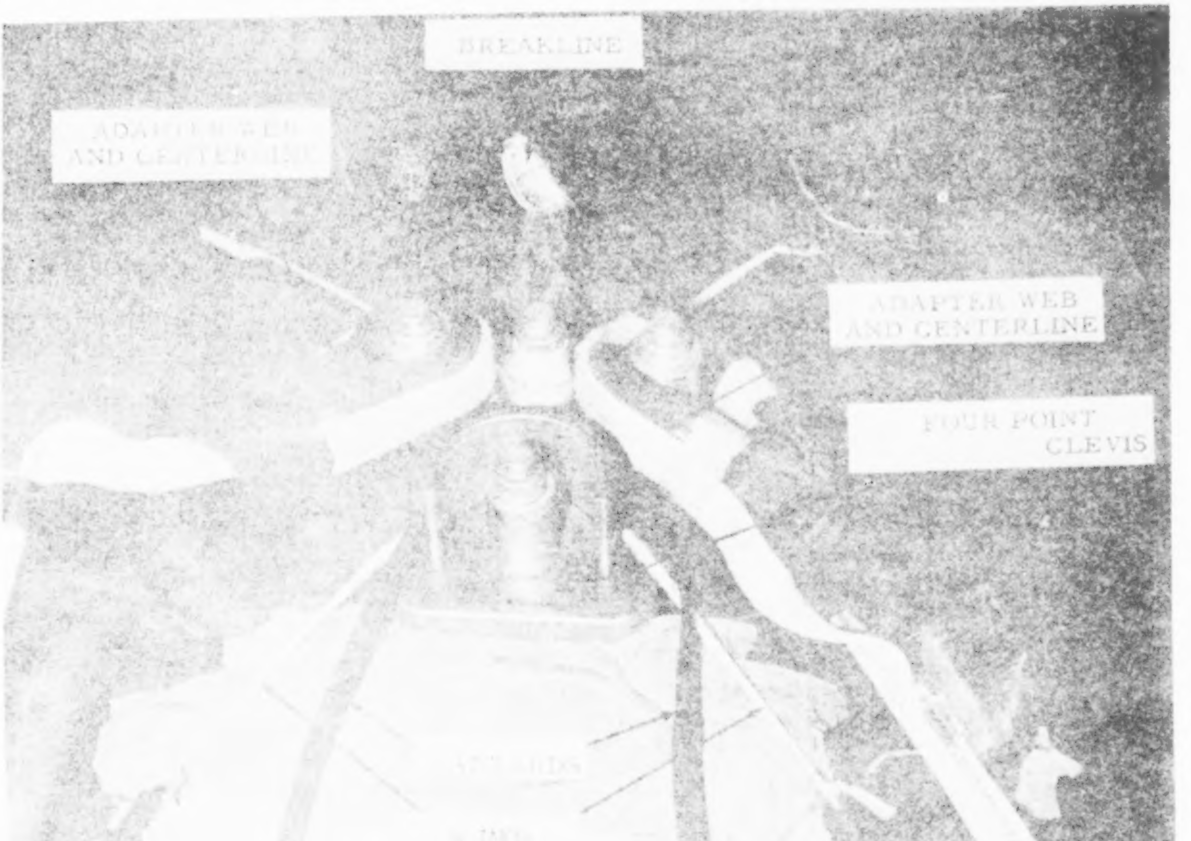

BREAKLINE
ADAPTER WEB AND CENTERLINE
ADAPTER WEB AND CENTERLINE
FOUR POINT CLEVIS
COTTON WEBBING

Figure 2-182.20. Parachute components attached to clevis.

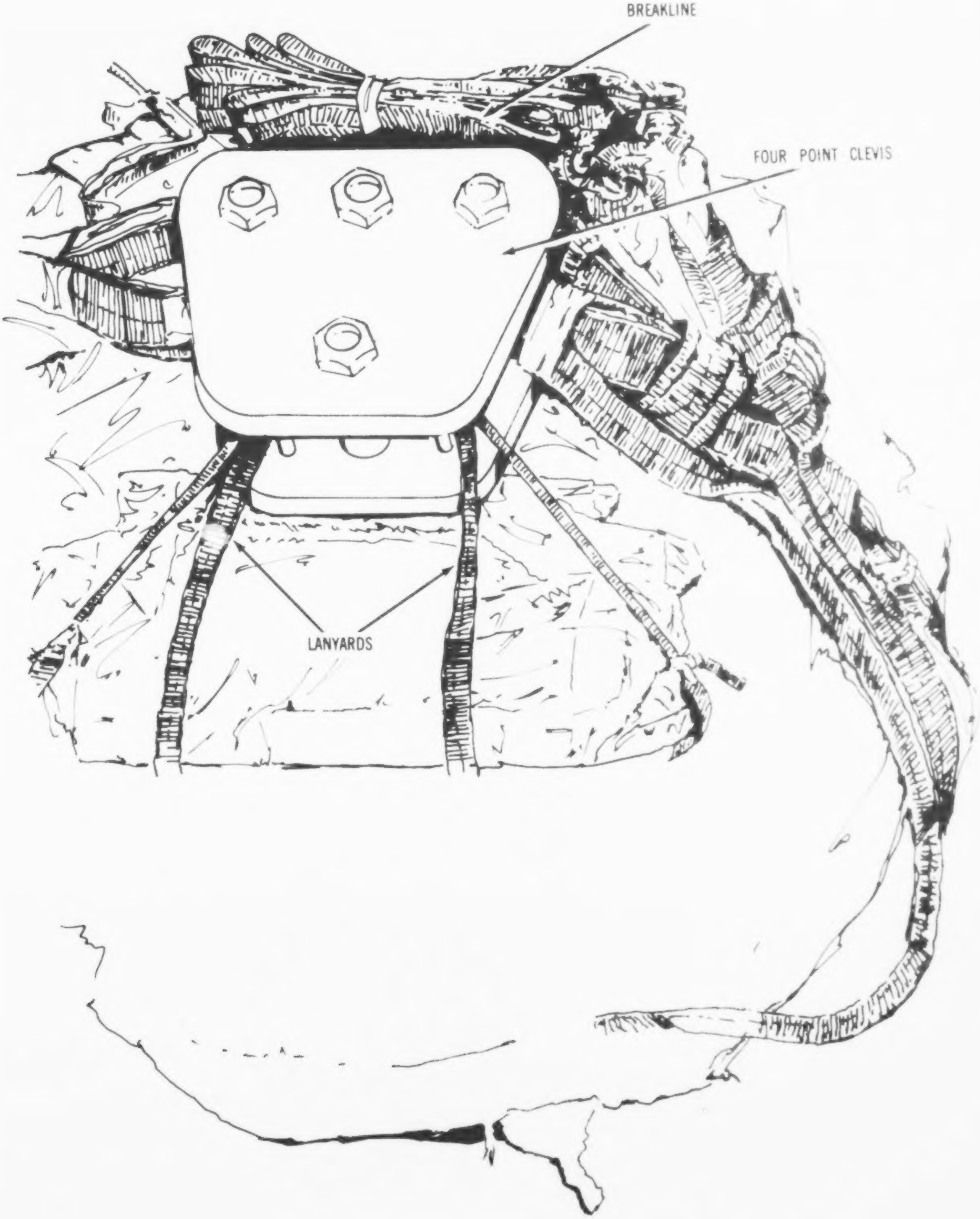

BREAKLINE
FOUR POINT CLEVIS
LANYARDS

Figure 2-182.21. Four-point Clevis Installed.

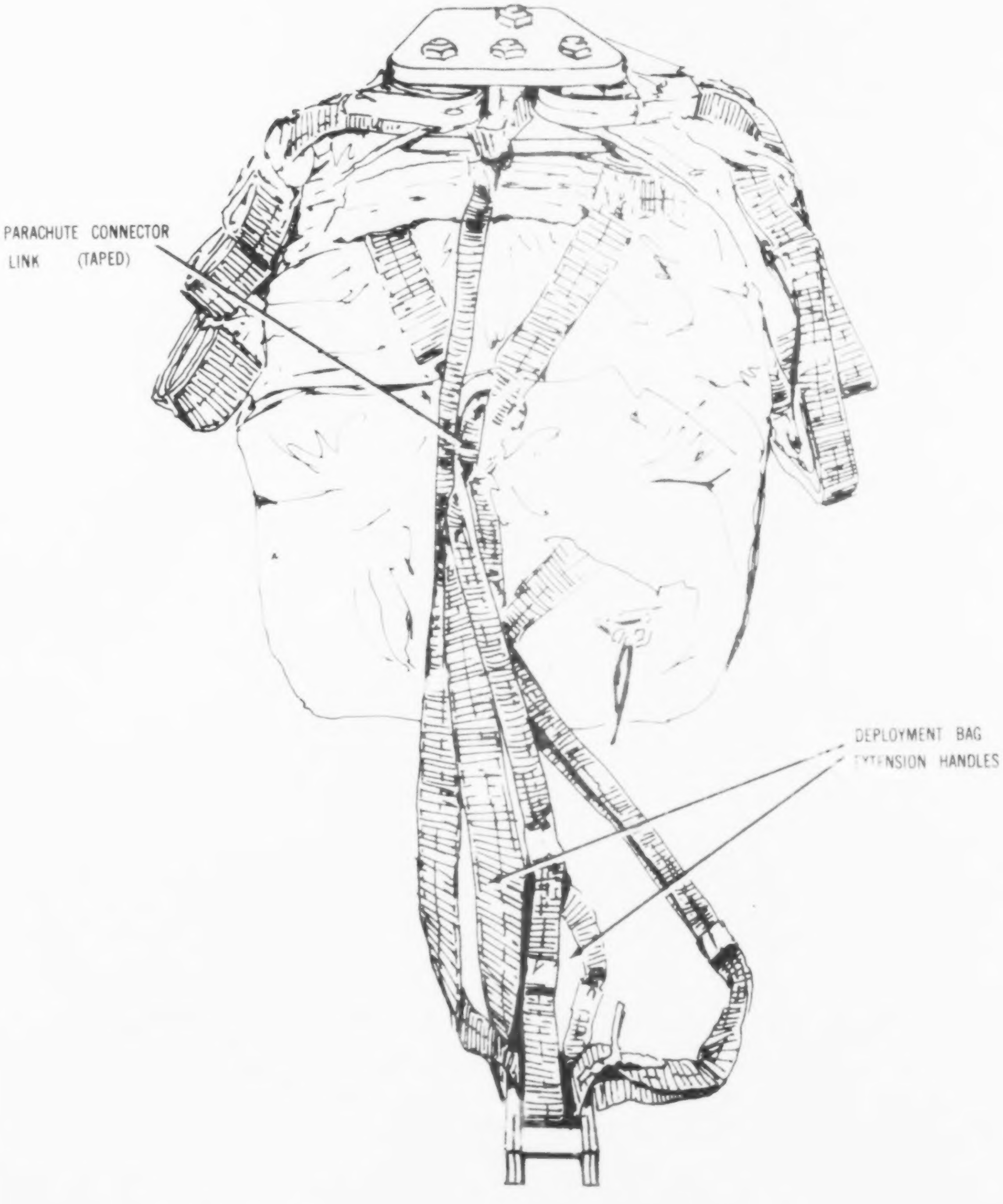

PARACHUTE CONNECTOR LINK (TAPED)
DEPLOYMENT BAG EXTENSION HANDLES

Figure 2-182.22. Extension Handles Attached to Deployment Bags.

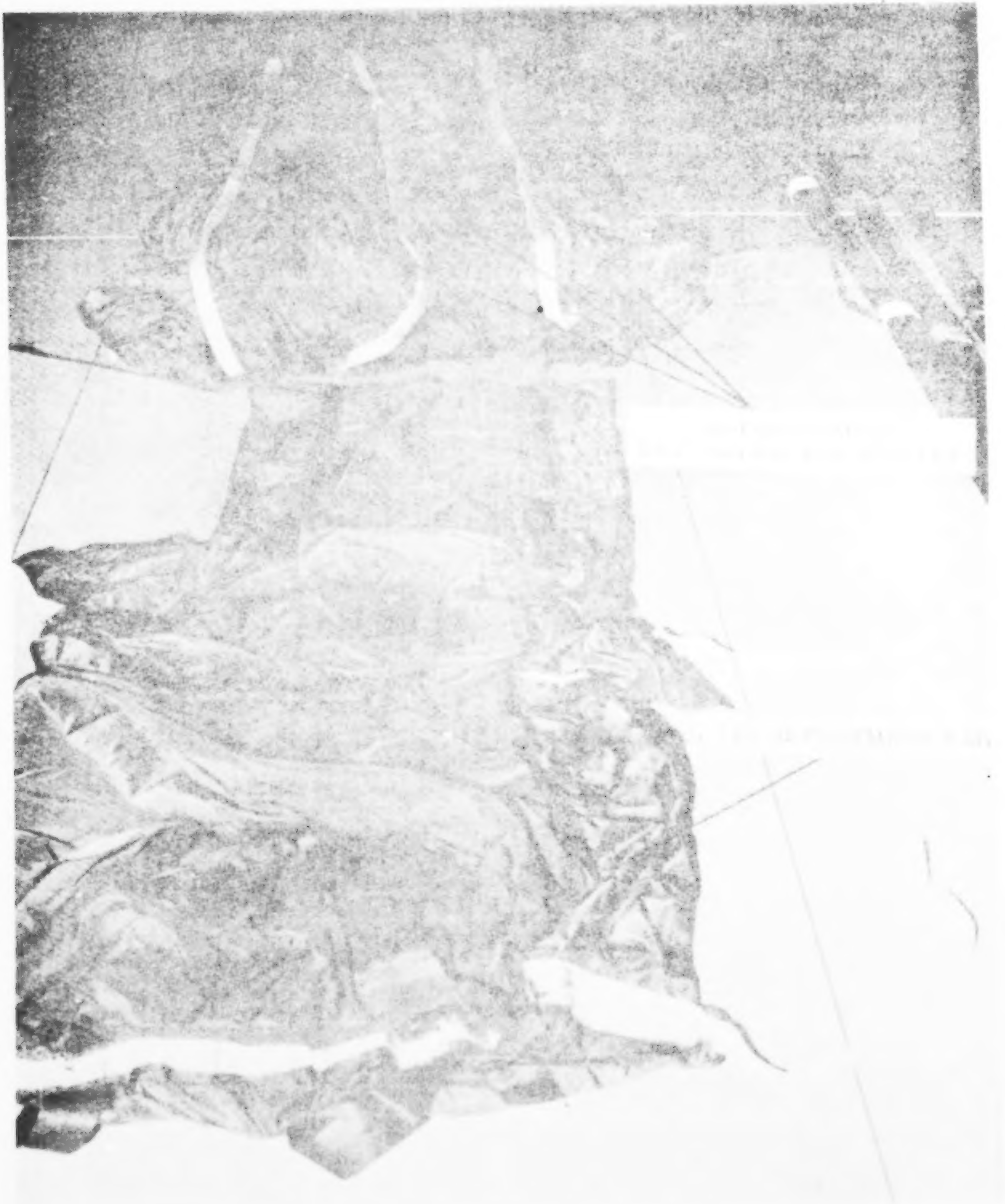


Figure 2-182.23. G-12D deployment bag in place for packing.

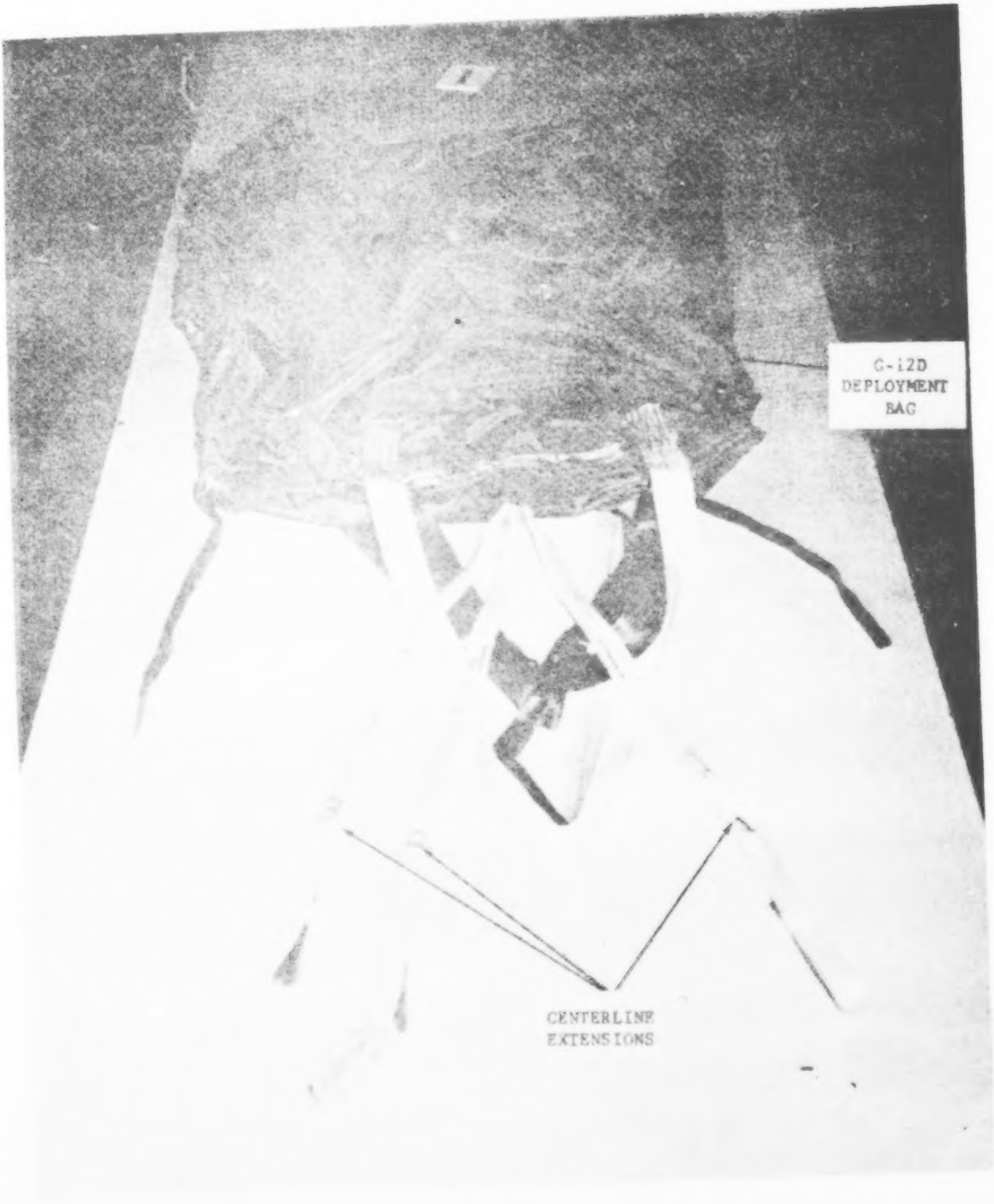

G-12D DEPLOYMENT BAG
CENTERLINE EXTENSIONS

Figure 2-182.24. Centerline extensions through deployment bag.

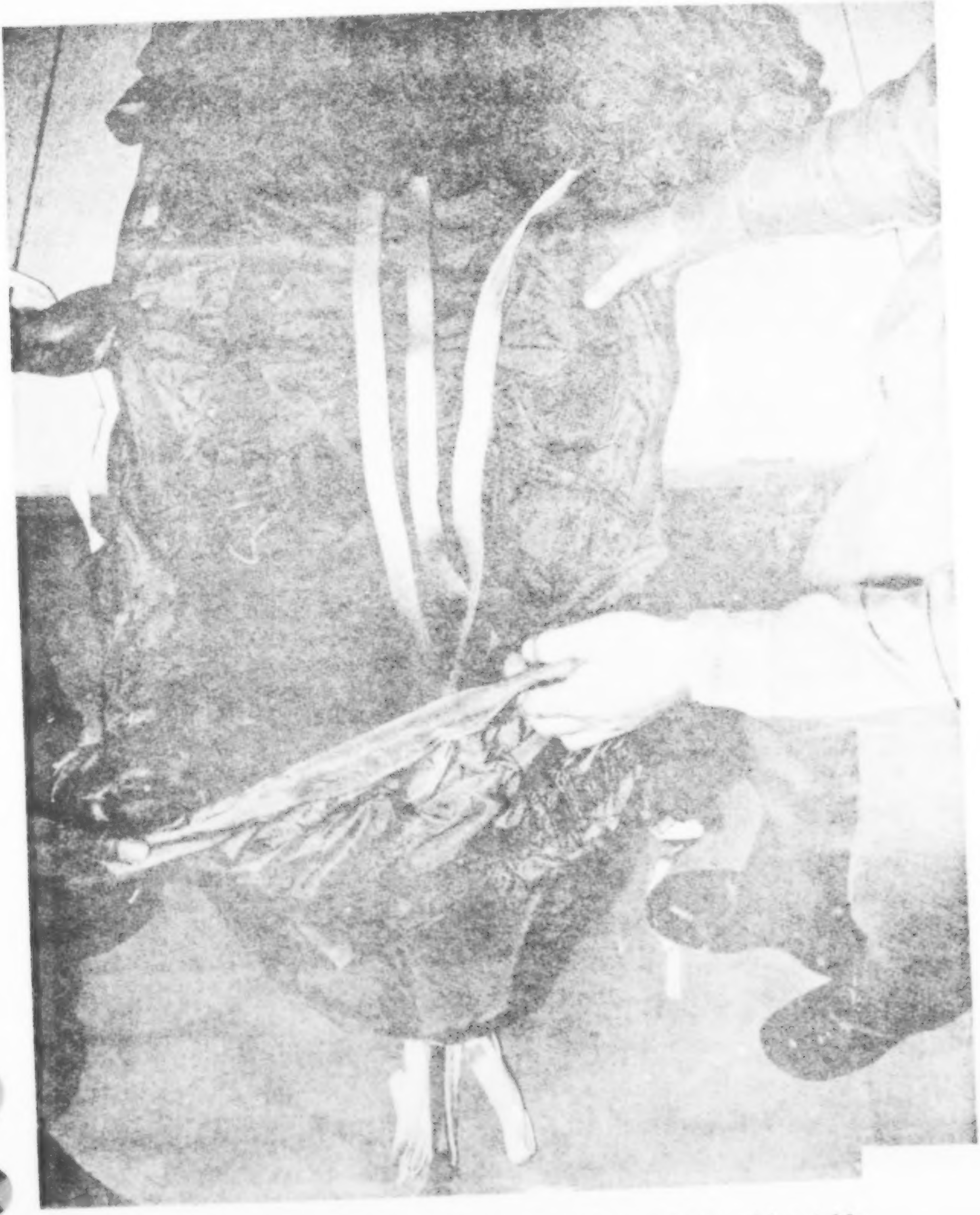


Figure 2-182.35. Deployment bag moved to end of packing table.

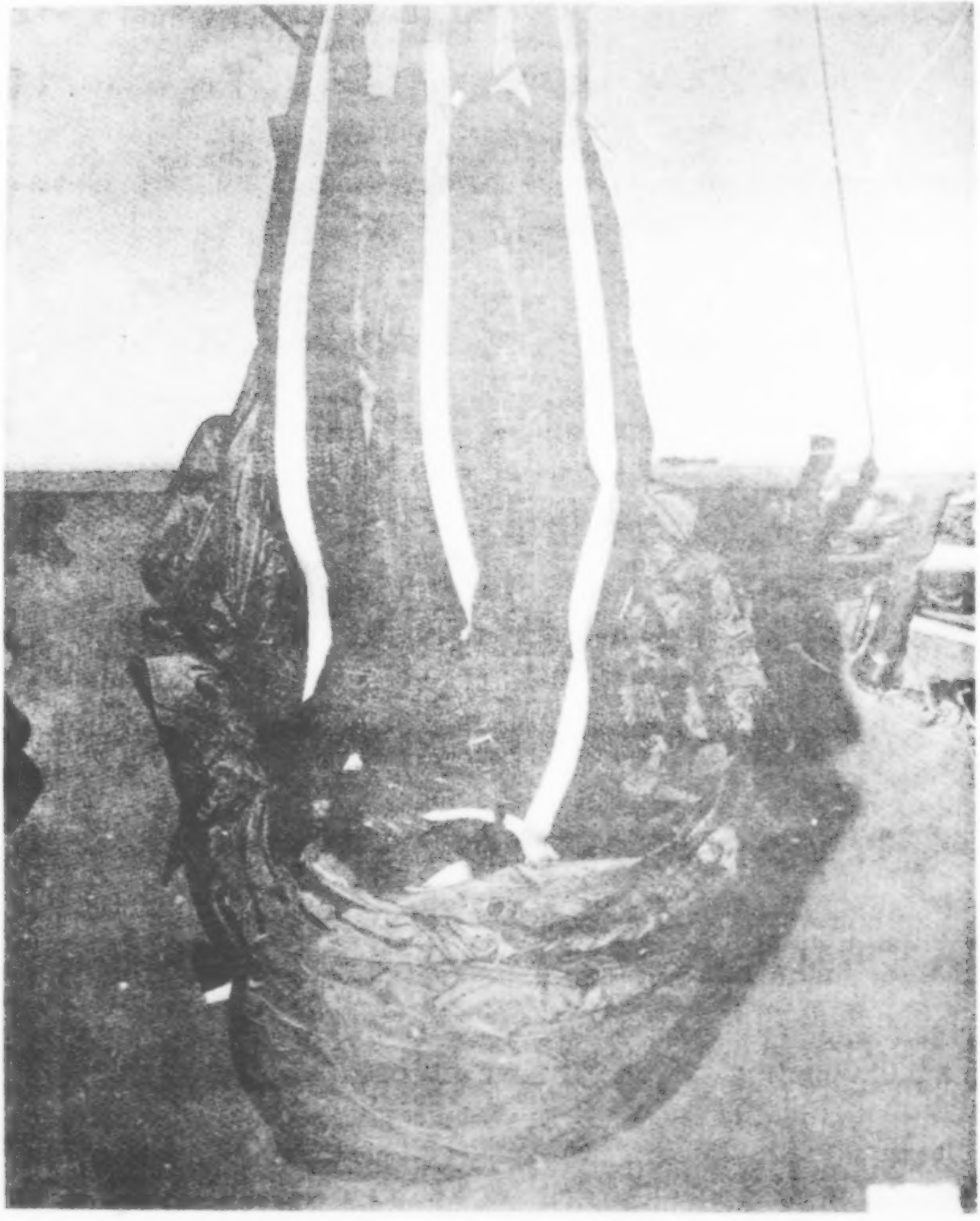


Figure 2-182.26. Canopies stowed in deployment bag.

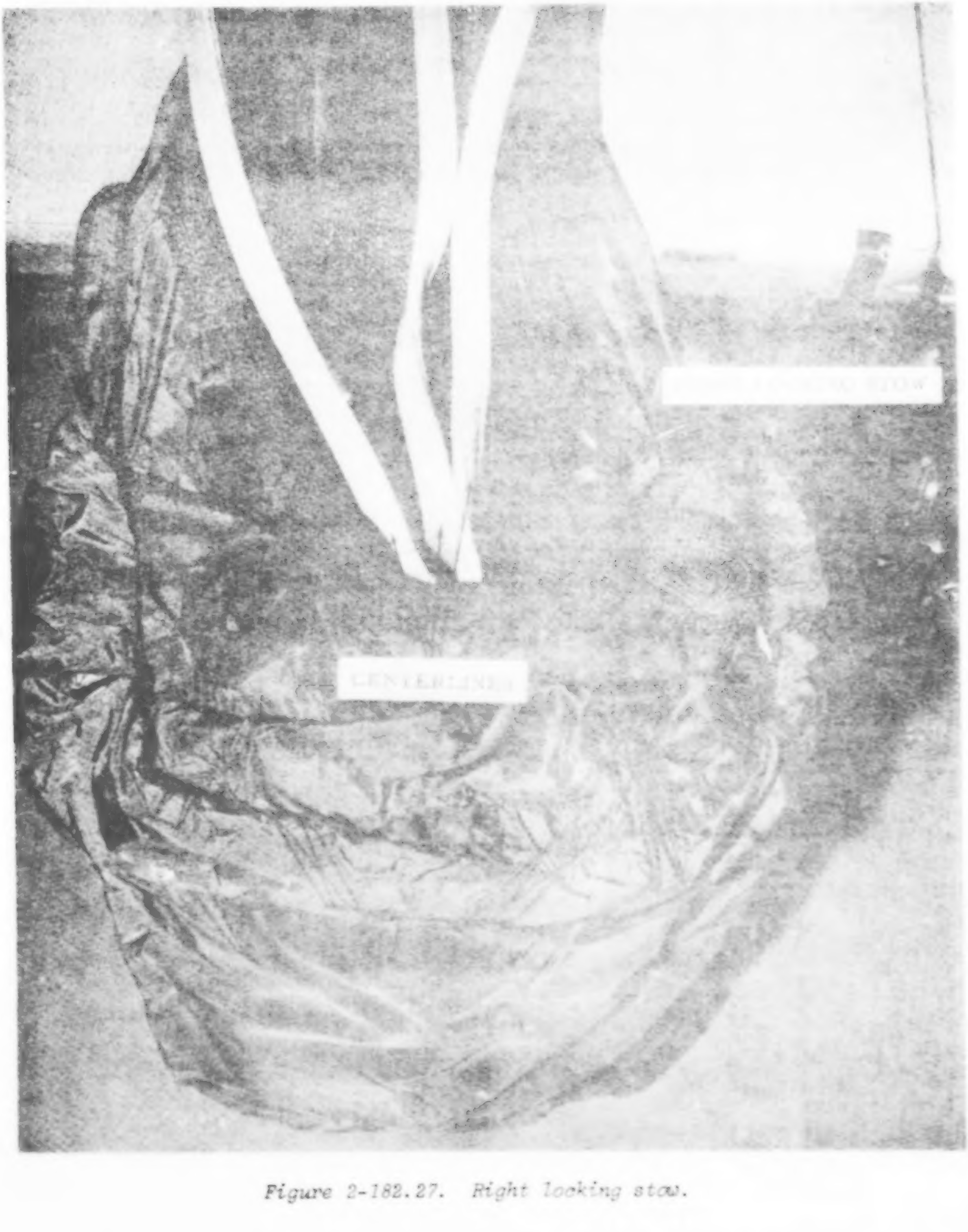

RIGHT LOCKING STOW
CENTERLINE

Figure 2-182.27. Right locking stow.

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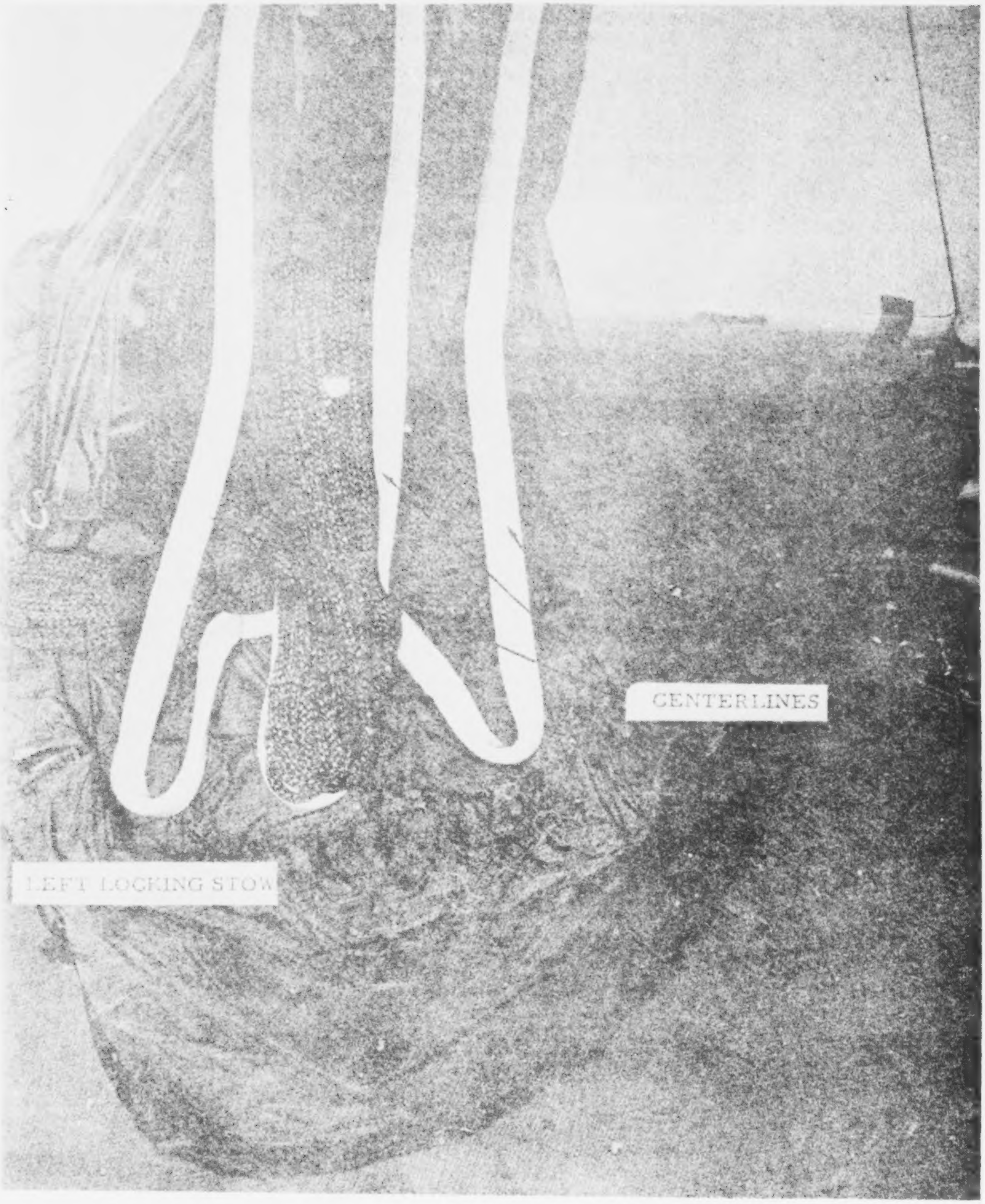
CENTERLINES
LEFT LOCKING STOW

Figure 2-182.28. Left locking stow.

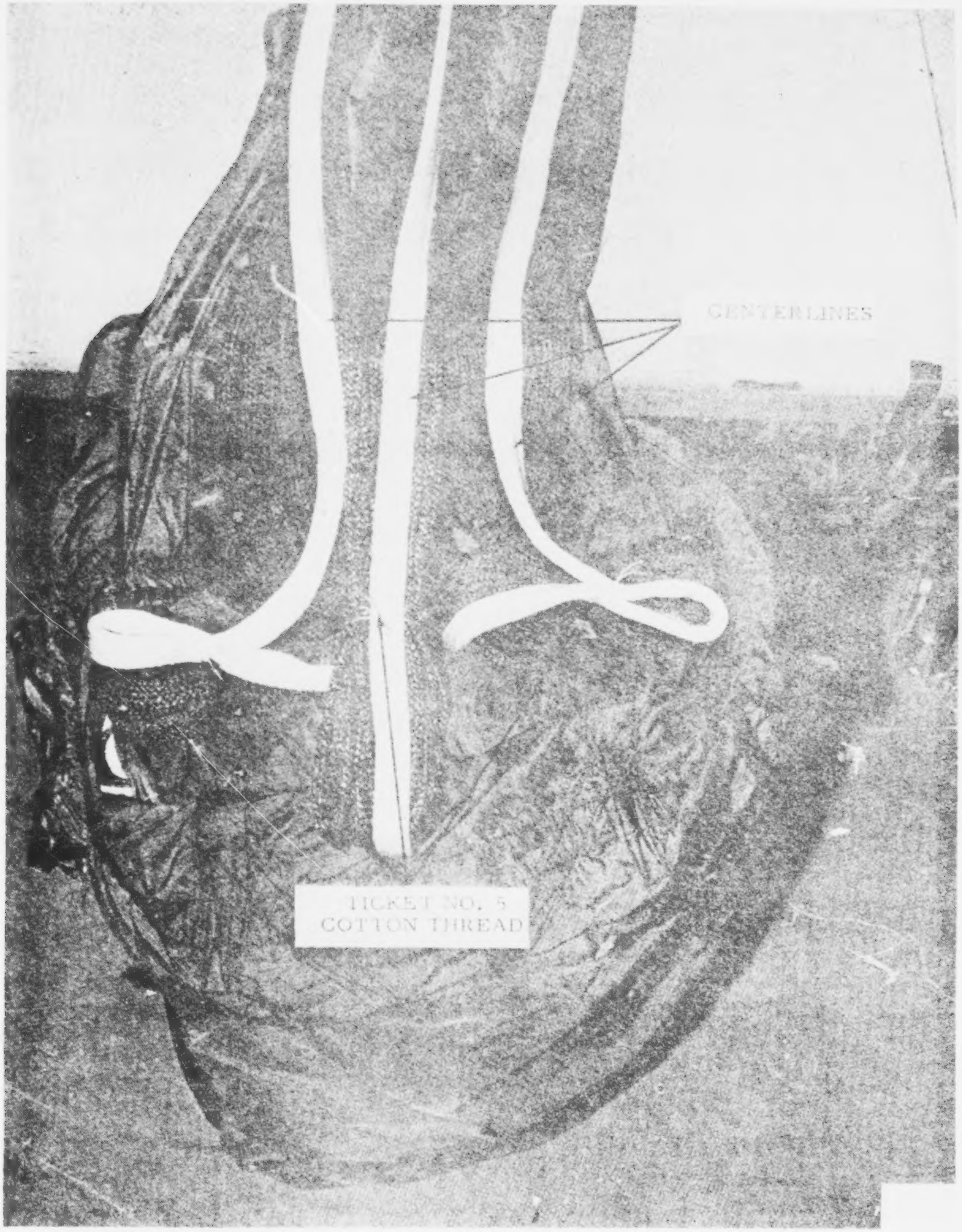
CENTERLINES
TICKET NO. 5
COTTON THREAD

Figure 2-182.29. Locking stows complete and centerlines secured.

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best copy available

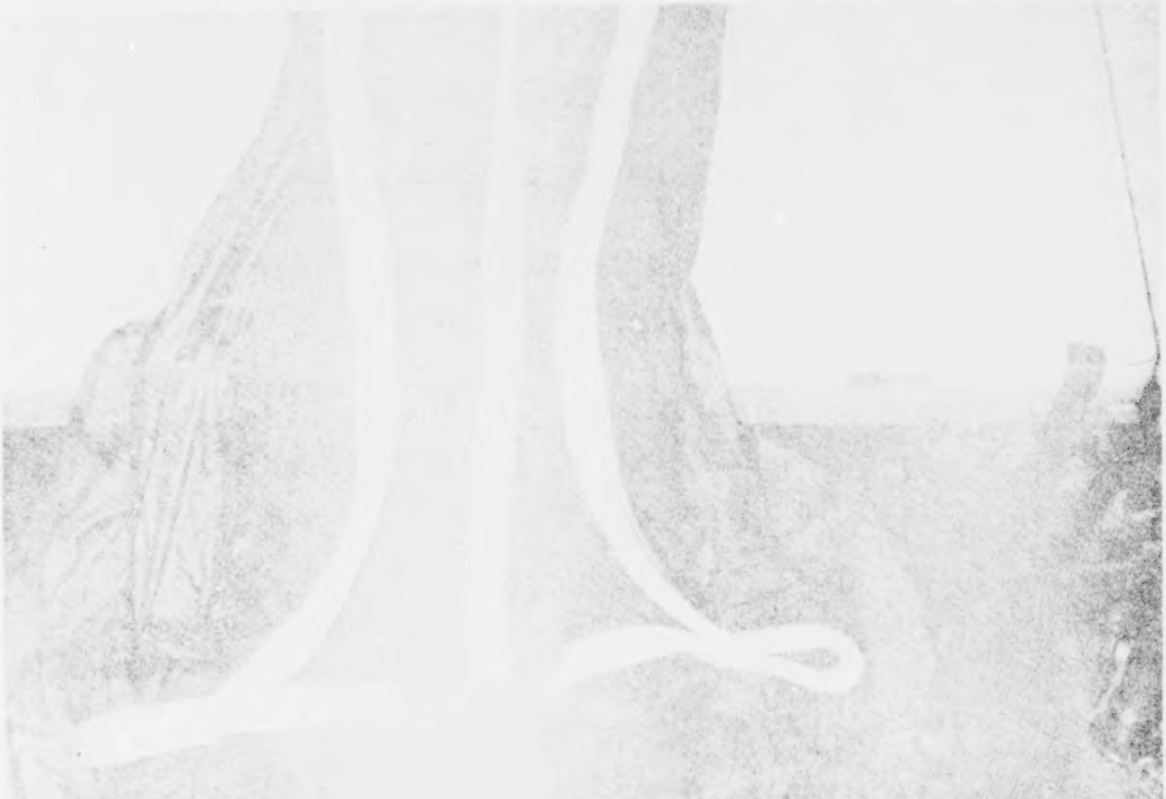


Figure 2-182.30. Center parachute stow under deployment bag flap.

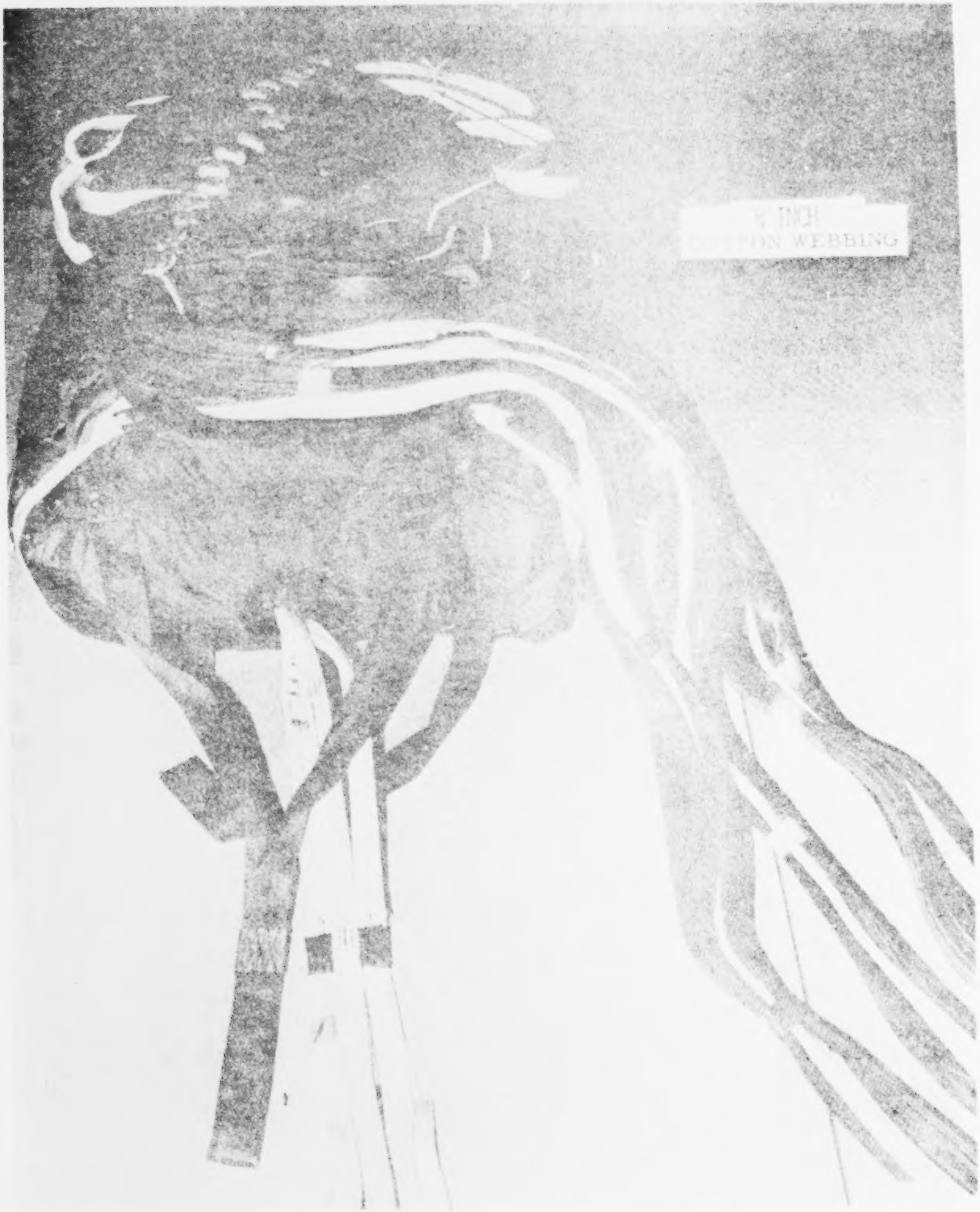

INCH
ON WEBBING

Figure 2-182.31. Suspension lines and adapter webs stowed.

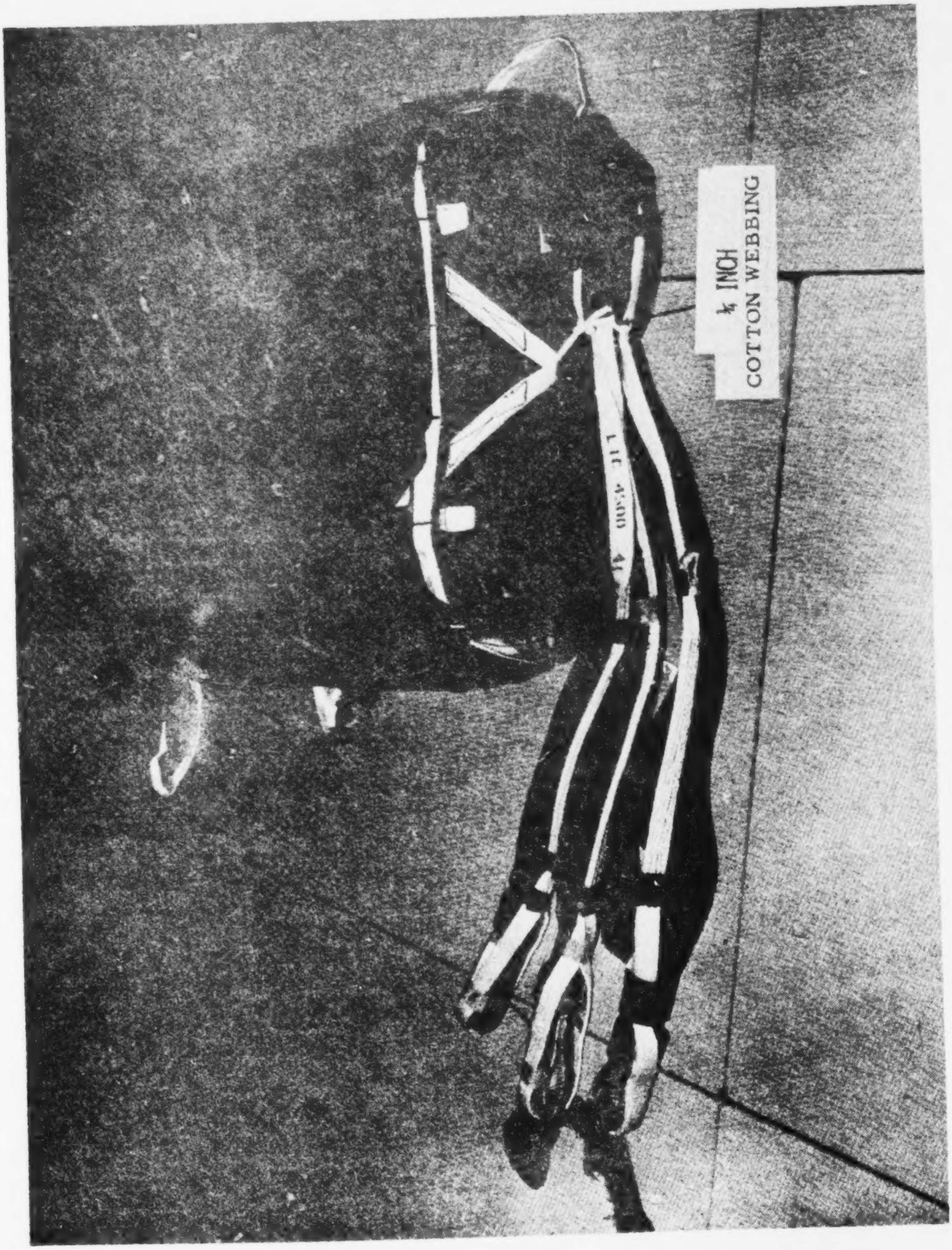

¼ INCH
COTTON WEBBING

Figure 2-182.32. Deployment bag closing tie.

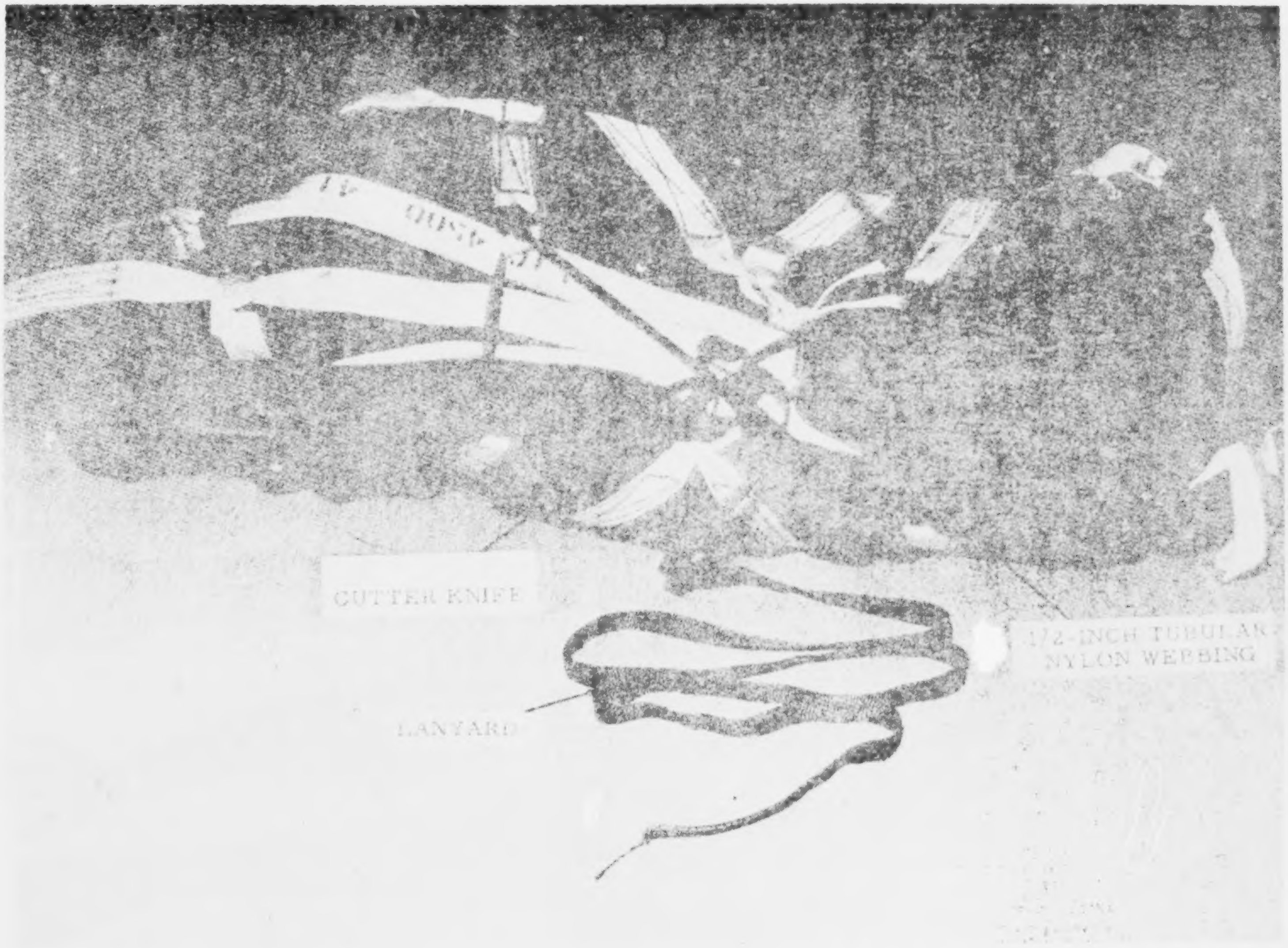

CUTTER KNIFE
1/2-INCH TUBULAR NYLON WEBBING
LANYARD

Figure 2-182.33. Figure eight tie, knife and lanyard installed.

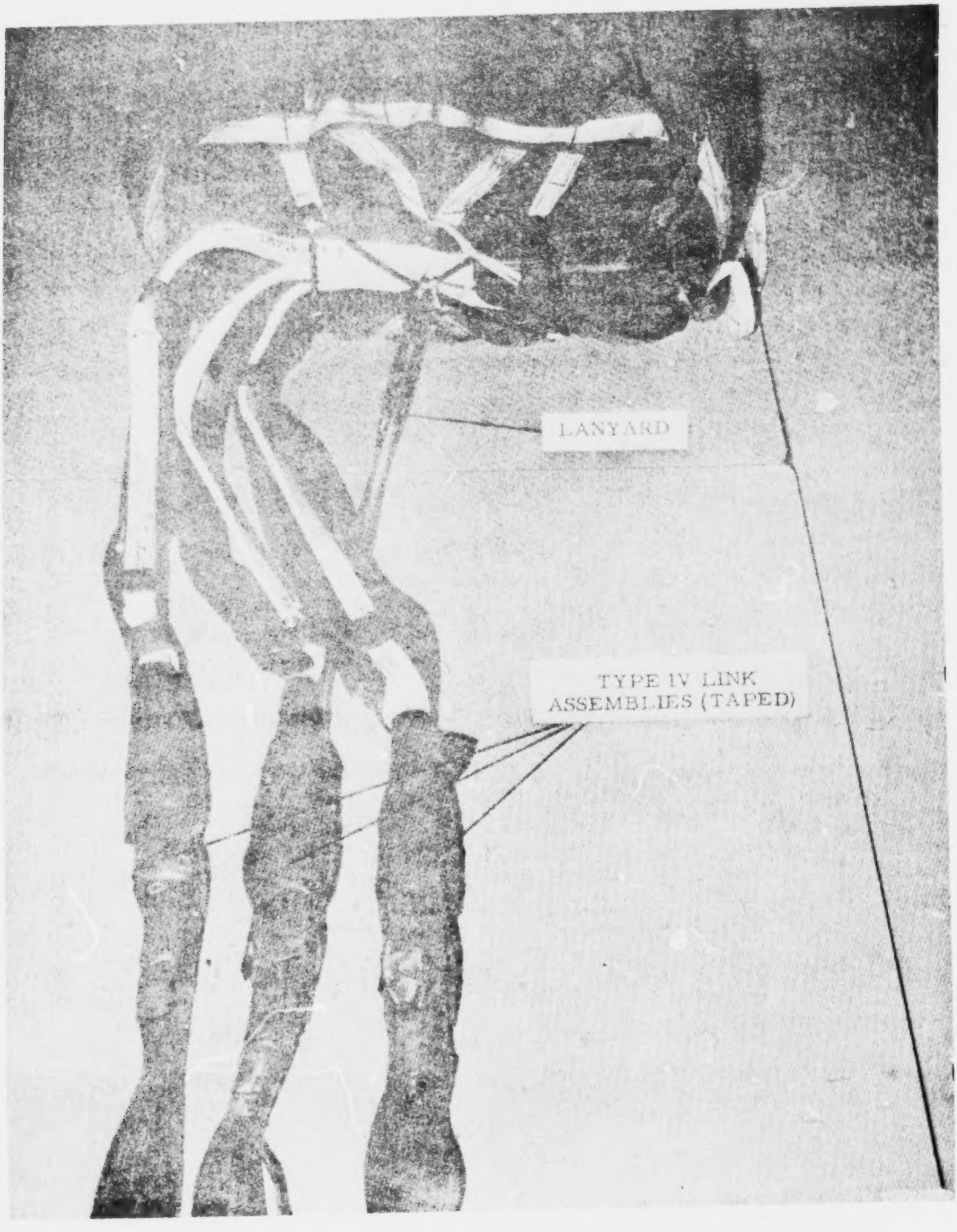

LANYARD
TYPE IV LINK ASSEMBLIES (TAPED)

Figure 2-182.34. Cluster risers and lanyard installed.

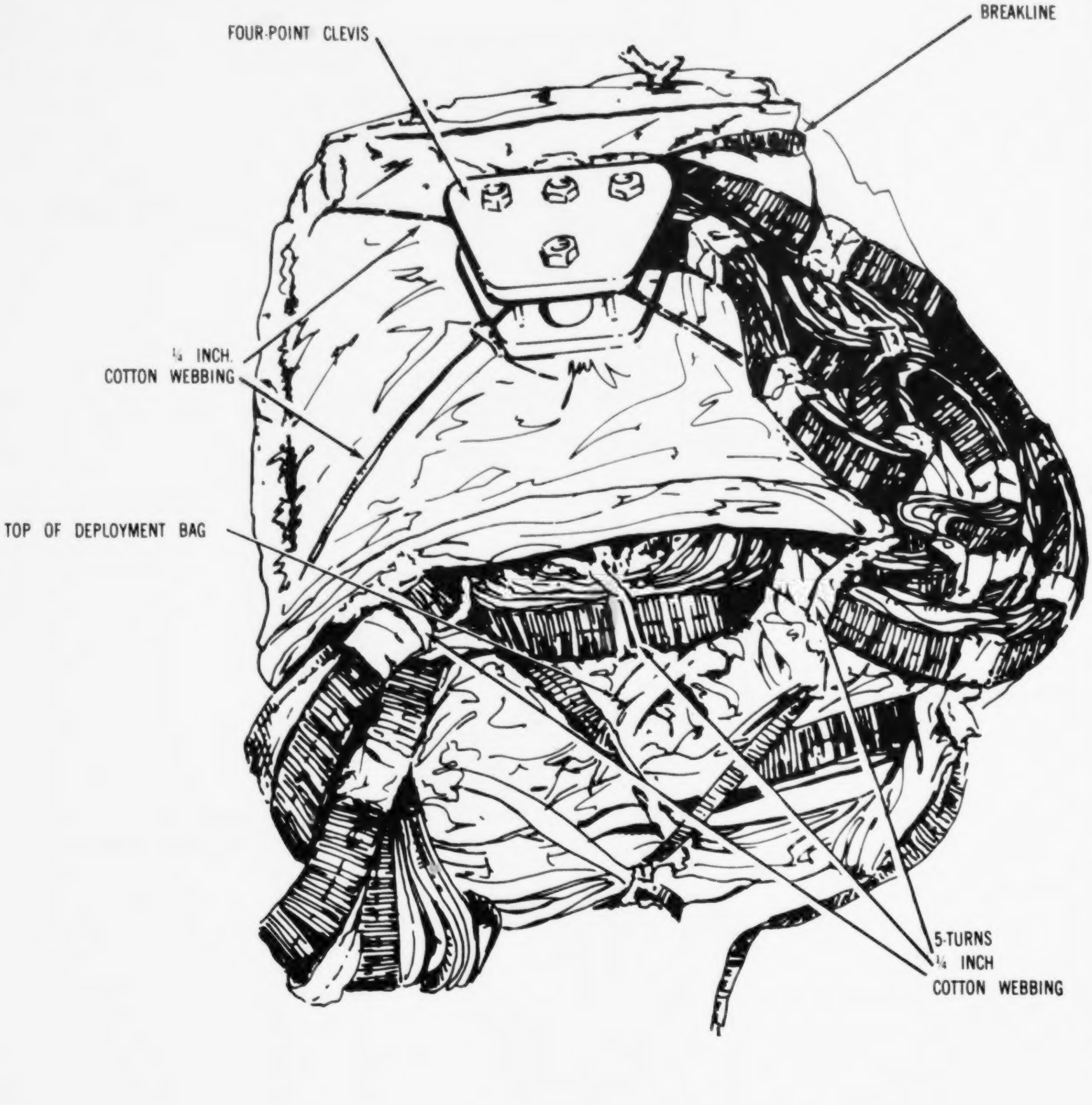

FOUR-POINT CLEVIS
BREAKLINE
¼ INCH
COTTON WEBBING
TOP OF DEPLOYMENT BAG
5-TURNS
¼ INCH
COTTON WEBBING

Figure 2-182.35. Cluster Riser Stowed and Four-point Clevis Installed, Riser Secured at Top of Deployment Bag.

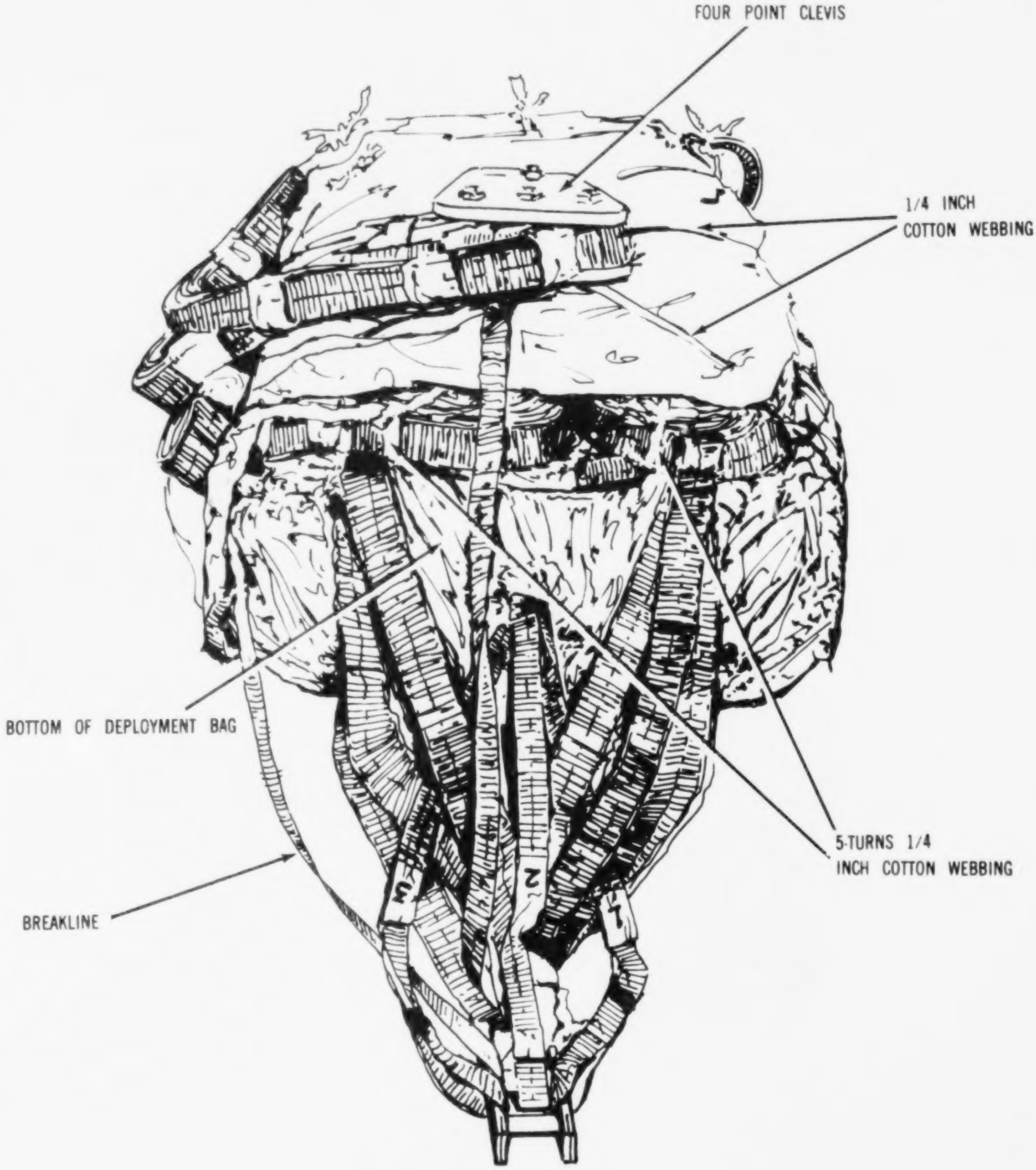

FOUR POINT CLEVIS
1/4 INCH
COTTON WEBBING
BOTTOM OF DEPLOYMENT BAG
5-TURNS 1/4
INCH COTTON WEBBING
BREAKLINE

Figure 2-182.35.1. Cluster Riser Stowed and Four-point Clevis Installed., Riser Secured at Bottom of Deployment Bag.

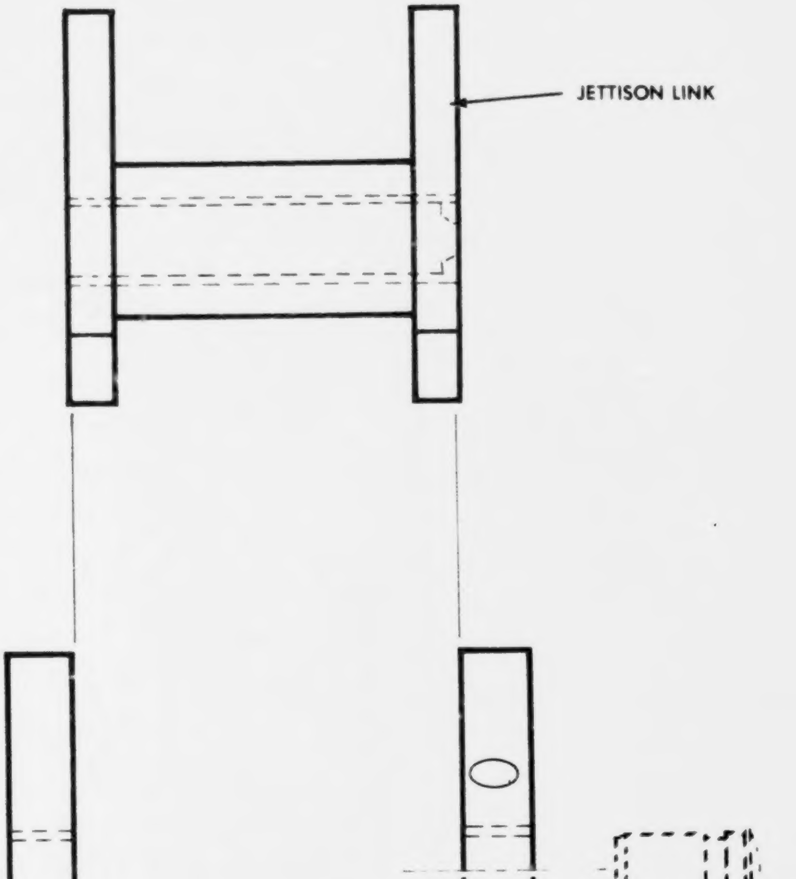

JETTISON LINK
EXTRACTION LINK

Figure 2-182.36. Extraction link assembly.

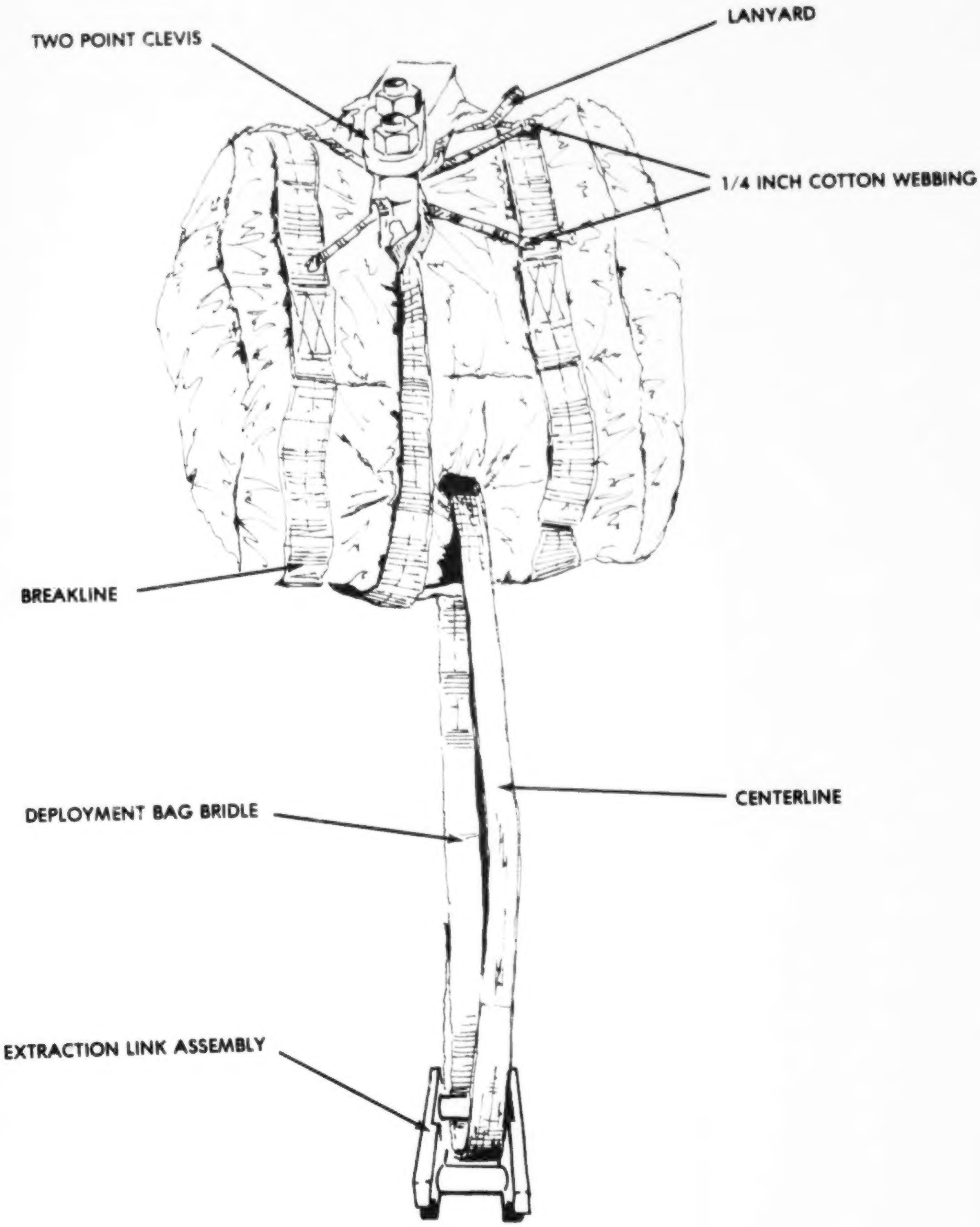

TWO POINT CLEVIS
LANYARD
1/4 INCH COTTON WEBBING
BREAKLINE
CENTERLINE
DEPLOYMENT BAG BRIDLE
EXTRACTION LINK ASSEMBLY

Figure 2-182.37. Extraction link assembly installed, single parachute.

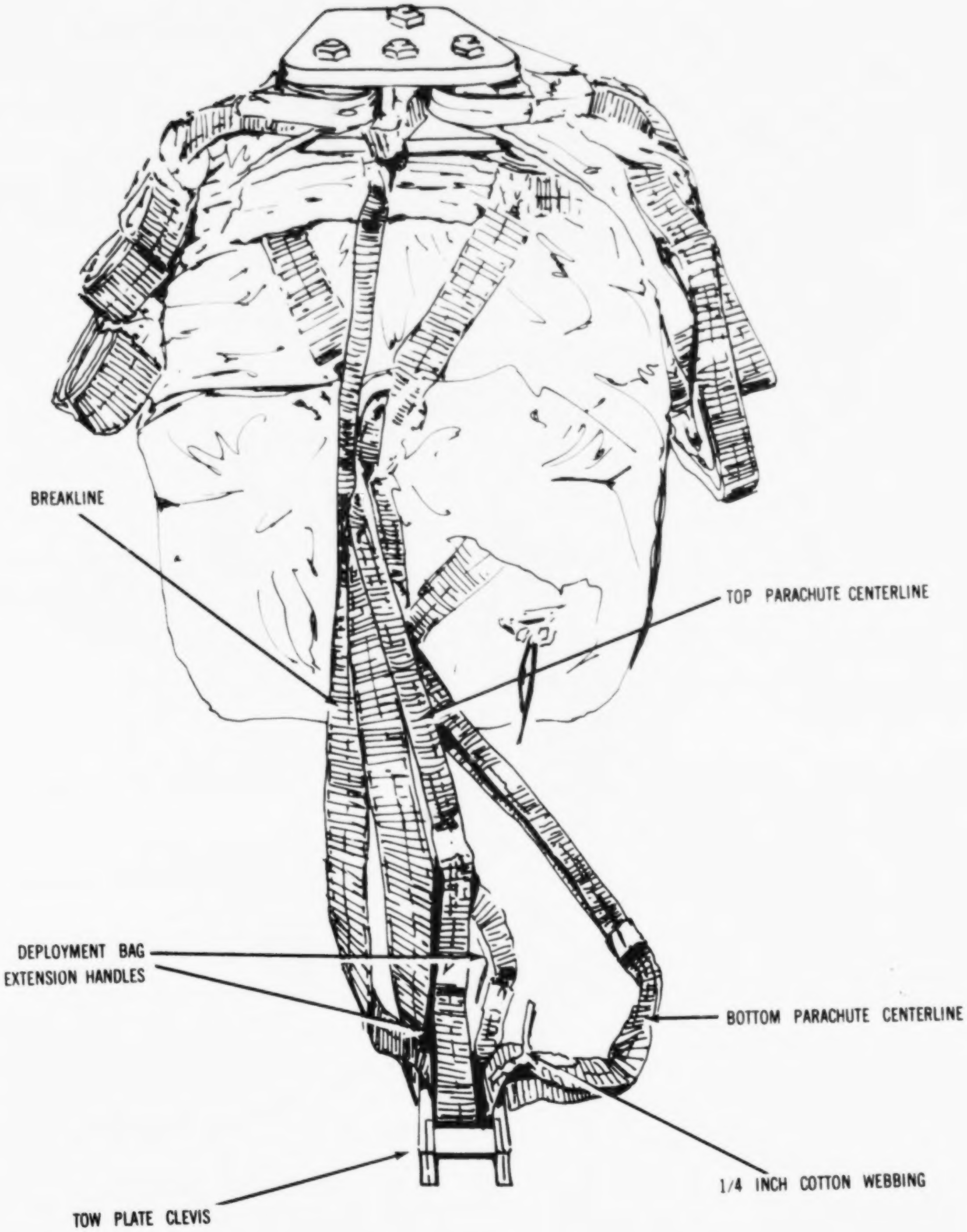

BREAKLINE
TOP PARACHUTE CENTERLINE
DEPLOYMENT BAG
EXTENSION HANDLES
BOTTOM PARACHUTE CENTERLINE
1/4 INCH COTTON WEBBING
TOW PLATE CLEVIS

Figure 2-182.38. Tow Plate Clevis Installed, Two Parachutes.

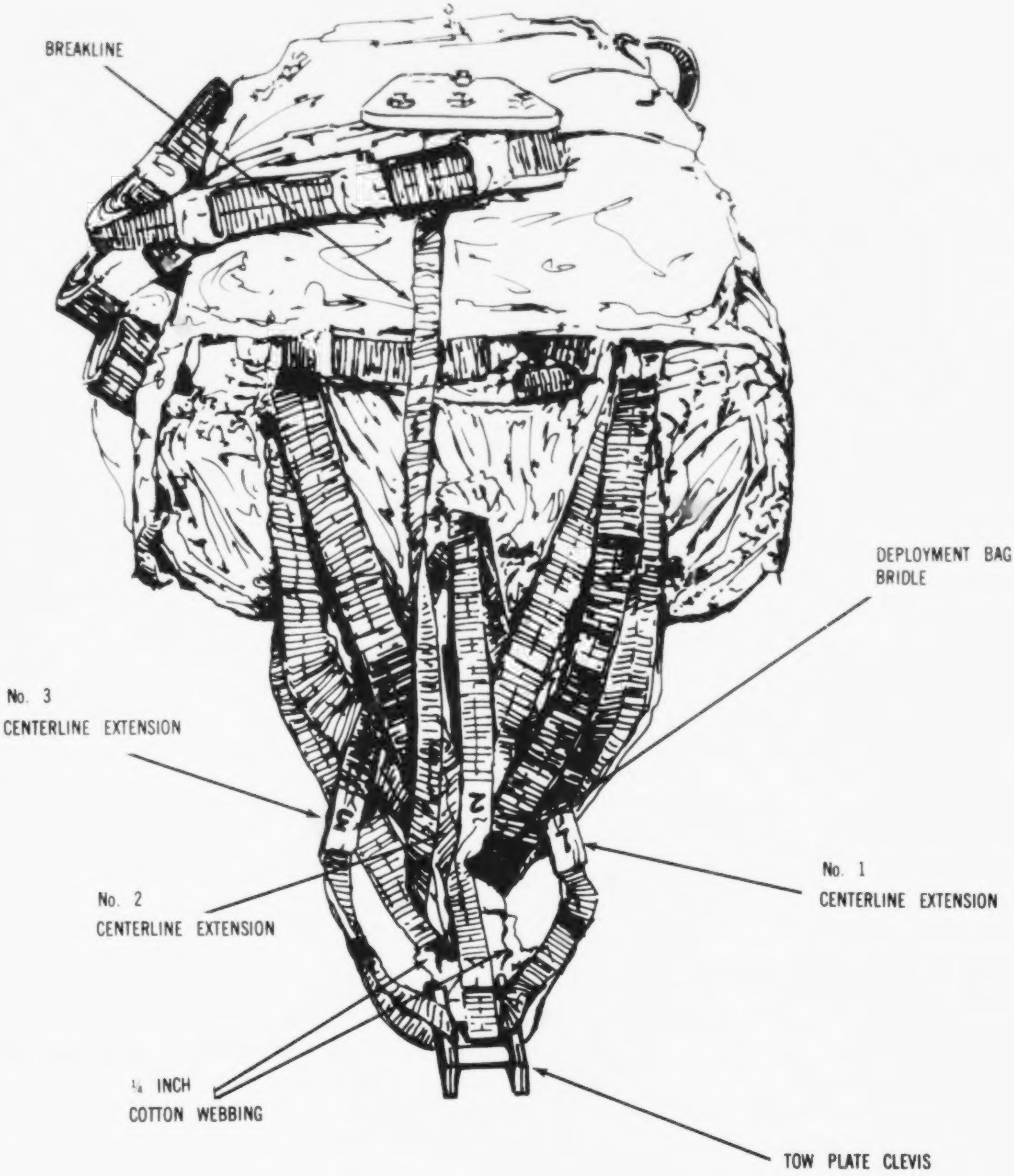

BREAKLINE
DEPLOYMENT BAG BRIDLE
No. 3 CENTERLINE EXTENSION
No. 1 CENTERLINE EXTENSION
No. 2 CENTERLINE EXTENSION
¼ INCH COTTON WEBBING
TOW PLATE CLEVIS

Figure 2-182.39. Tow Plate Clevis Installed, Three Parachutes.

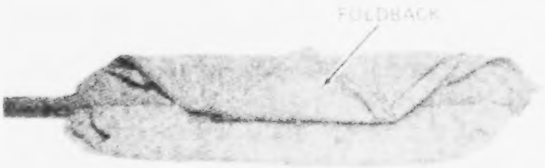
Section XI. THE 3-FOOT-SQUARE PILOT PARACHUTE

2–93. Folding the Canopy

a. Make two quarter-folds in the canopy on each group of the suspension lines.

b. Fold the two right canopy quarter-folds across the suspension lines to a point 3 inches beyond the suspension lines.

c. Fold the two left canopy quarter-folds across the folded right folds and suspension lines. Further, make a foldback on the left fold canopy edges as indicated in figure 2-183.



AV 106675

Figure 2–183. Canopy folding completed, 3-foot-square pilot parachute.

2–94. Assembling Components

a. Attaching Bridle Line to Deployment Weight.

(1) Insert the deployment weight release plug through the loop on the end of the bridle line which is nearest the pack locking loop.

(2) Pass the opposite end of the bridle line through the loop in the deployment weight webbing (fig. 2-184) and pull the bridle line through the deployment weight loop.

b. Attaching Bridle Line and Retaining Line to Canopy

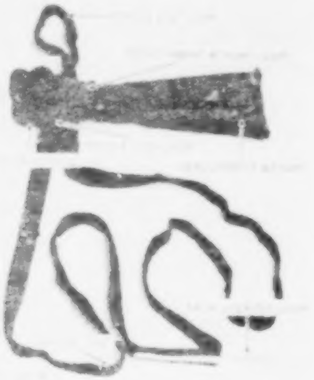
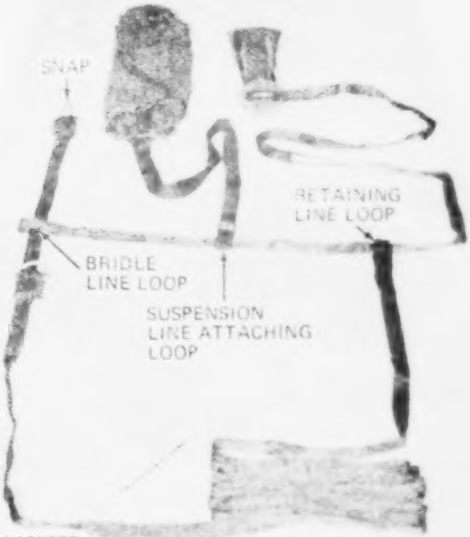


Figure 2–184. Attaching bridle line to deployment weight, 3-foot-square pilot parachute.

(1) Pass the bridle line free end through the loop on one end of the retaining line and through the suspension line attaching loop.

(2) Pass the snap fastener end of the retaining line through the loop in the free end of the bridle line (fig. 2-185) and pull the retaining line through the bridle line loop.



AV 106677

Figure 2–185. Attaching the bridle line and the retaining line to the canopy, 3-foot-square pilot parachute.

2–95. Stowing the Retaining Line and the Bridle Line

a. Open the pack, unsnap the suspension line retaining strap, and place the pack flat on the packing surface. Insure the end flap, with the pack releasing cone installed, is positioned to the right.

b. Place the suspension line attaching loop on the pack pocket panel at a point off center toward the bottom side flap.

c. Make two 8-inch S-folds in the bridle line on the pack pocket panel below the suspension line attaching loop. When the S-folding is completed, the end of the pack locking loop on the bridle line should be located 6 inches from the left end of the pocket panel.

d. Stow the retaining line on the pocket panel above the suspension line attaching loop by making 8-inch S-folds in the line length to a point 6 inches from the V-ring installed on the retaining line (fig. 2-186).

2–96. Stowing the Suspension Lines and Canopy

a. At the right edge of the pocket panel, fold the suspension lines back over the stowed retaining line to make the first suspension line stow.

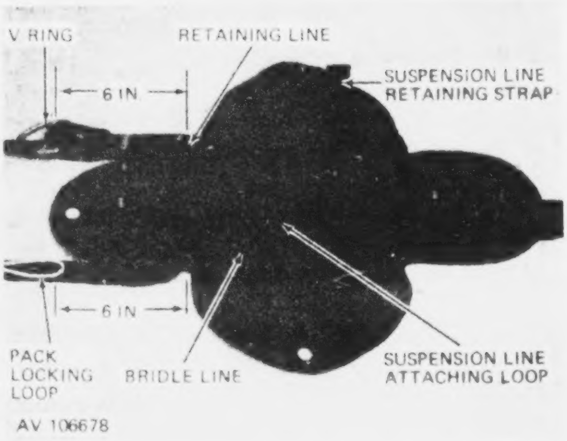
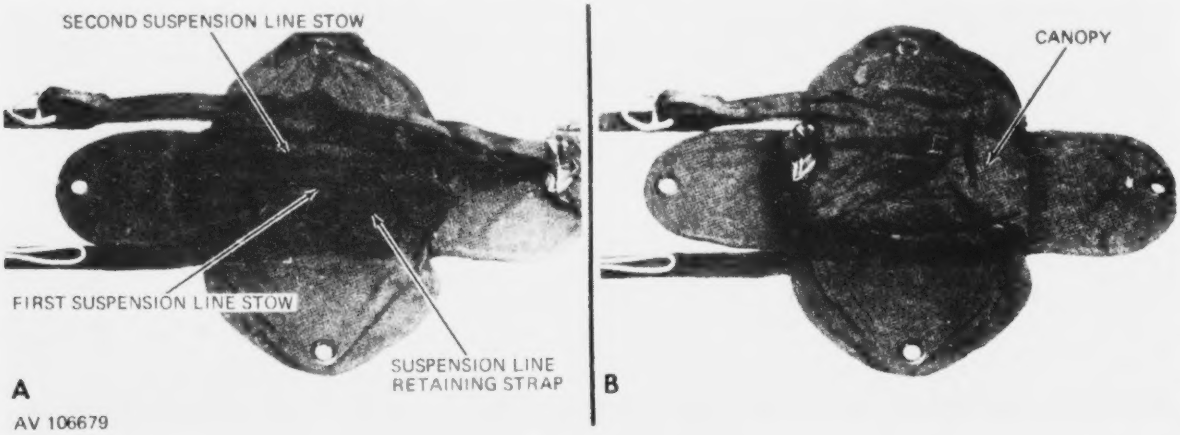

V RING
RETAINING LINE
SUSPENSION LINE RETAINING STRAP
6 IN
6 IN
PACK LOCKING LOOP
BRIDLE LINE
SUSPENSION LINE ATTACHING LOOP
AV 106678

Figure 2–186. Retaining line and bridle line stowage completed, 3-foot-square pilot parachute.

b. Extend the suspension line retaining strap over the first line stow, the stowed retaining line and the stowed bridle line. Secure the strap by engaging the snap fastener and the snap located at the bottom edge of the pocket panel.

c. Make the second suspension line stow at the left center edge of the pocket panel on top of the stowed retaining line (A, fig. 2-187).


SECOND SUSPENSION LINE STOW
FIRST SUSPENSION LINE STOW
SUSPENSION LINE RETAINING STRAP
A
AV 106679
CANOPY
B

A. Two suspension line stows completed.
B. Canopy stowed.

Figure 2–187. Stowing the suspension lines and canopy, 3-foot-square pilot parachute.

d. Extend the suspension lines back to the upper right corner of the pocket panel and make the third suspension line stow on top of the stowed retaining line.

e. Position the canopy skirt at the left edge of the pocket panel.

f. Beginning at the right edge of the pocket panel, accordion fold the canopy across the width of the pocket panel (B).

2–97. Closing the Pack

a. Fold the top side flap over the stowed canopy, and further fold the bottom side flap over the top side flap.

b. Pass the pack closing loop, located on the top side flap, through the grommet on the bottom side flap.

c. Fold the right end flap over the side flaps, and fold the left end flap over the side flaps.

d. Install a safety tie on the pack as follows:

(1) Cut an 8-inch length of ticket No. 24 cotton thread for use as tie material.

(2) Pass one end of the thread length up through the left end flap grommet and through the bridle line pack locking loop to the left of the pack.

(3) Pass the opposite end of the thread length to the right through the pack closing loop and up through the right end flap grommet (fig. 2-188). Do not secure the thread ends.

(4) Pass the pack closing loop up through the right end flap grommet and through the left end flap grommet to the outside. Insure the safety tie thread length is not inadvertently removed.

(5) Pass the bridle line pack locking loop through the pack closing loop and place the pack locking loop over the pack releasing cone.

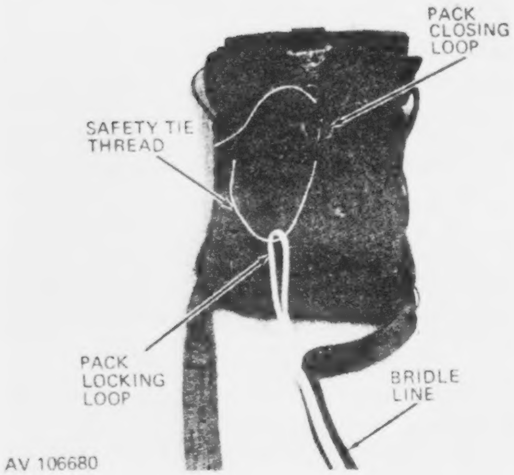


Figure 2–188. Installing the pack safety tie, 3-foot-square pilot parachute.

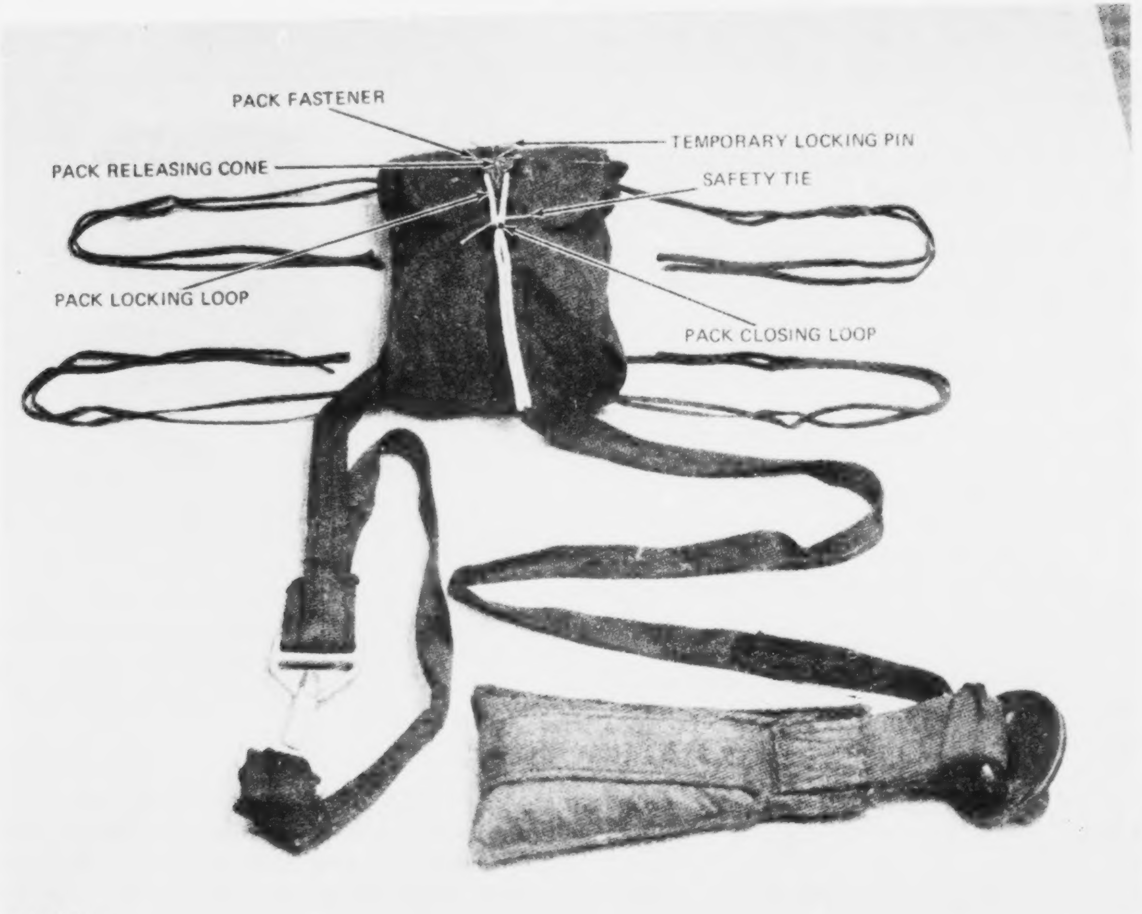
(6) Position the pack fastener over the pack releasing cone and secure the fastener by inserting a temporary locking pin through the hole at the top of the cone. Connect the retaining line snap fastener to the V-ring.

(7) Draw both ends of the safety tie thread together on top of the pack closing loop and secure the thread ends with a surgeon's knot and a locking knot (fig. 2-189). Allow a slight amount of slack when making the safety tie to prevent breaking the tie inadvertently after completion. Trim tie ends to 2 inches.

2–98. Completing the Pack

a. S-fold the remaining bridle line length and retaining line length which extend from the closed pack and place the folds on top of the pack.

b. Position the deployment weight on top of the folded bridle line and retaining line. Temporarily secure the weight and lines to the top of the pack using the pack tiedown cords.


PACK FASTENER
TEMPORARY LOCKING PIN
PACK RELEASING CONE
SAFETY TIE
PACK LOCKING LOOP
PACK CLOSING LOOP

AV 106681

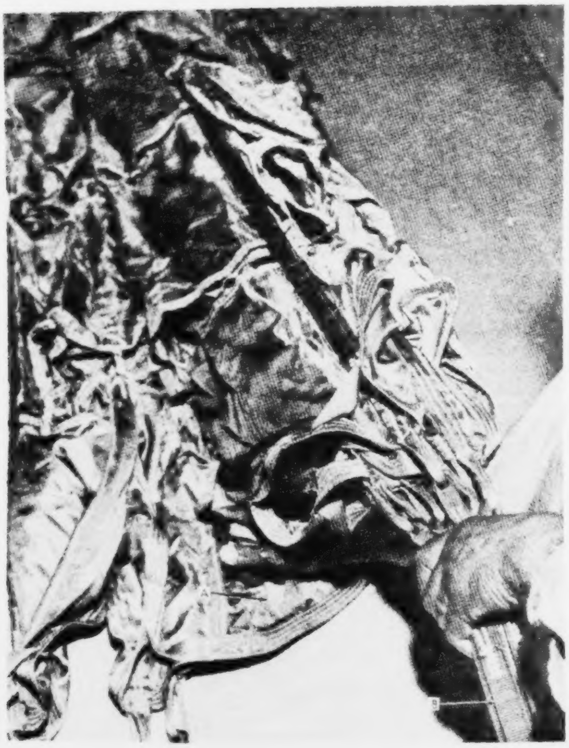
Figure 2–189. Pack closing completed, 3-foot-square pilot parachute.

Section XII. PACKING PROCEDURES FOR THE HEAVY DUTY 28-FOOT-DIAMETER CARGO EXTRACTION PARACHUTE

2-99. Folding the Canopy Gores.

Fold the canopy gores into two groups of 18 gores each as follows:

a. With the left hand, lift the right group of suspension lines (lines 13 thru 19) at the canopy skirt. Place the right hand, palm down, on the top center gore (fig. 2-190) and flip the right group of lines over the left group. Slide the right hand with top and bottom center gores toward the right side of the packing table.



A. Top center gore.

B. Right group of suspension lines.

Figure 2-190. Flipping the right group of suspension lines over left group, heavy duty 28-foot-diameter cargo extraction parachute.

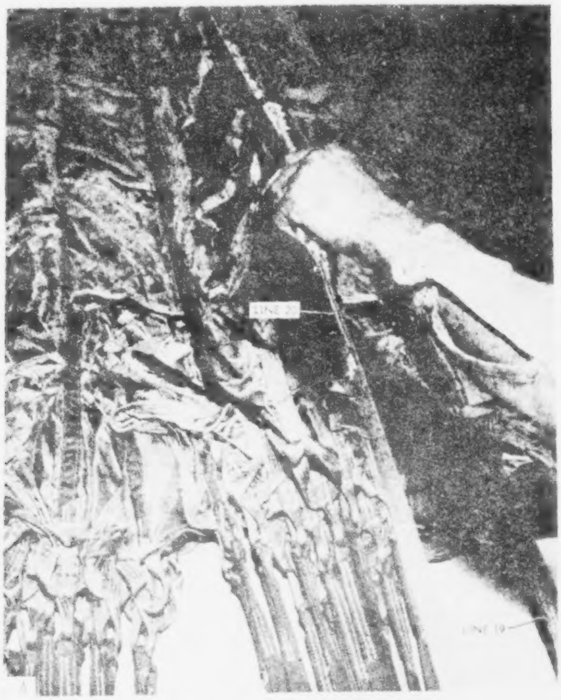
b. Release the lines and pick up line 19 at the canopy skirt with the right hand. Move line 19 over the edge of the packing table and pick up line 20 with the left hand, raising line 20 sufficiently to expose gore (fig. 2-191, view A).

c. Bring the left hand down to the right hand with gore 19 neatly folded to the right of the table. Place line 20 directly over line 19, holding the lines in place with the thumb and forefinger of the right hand. Repeat this procedure for lines 21 through 36.

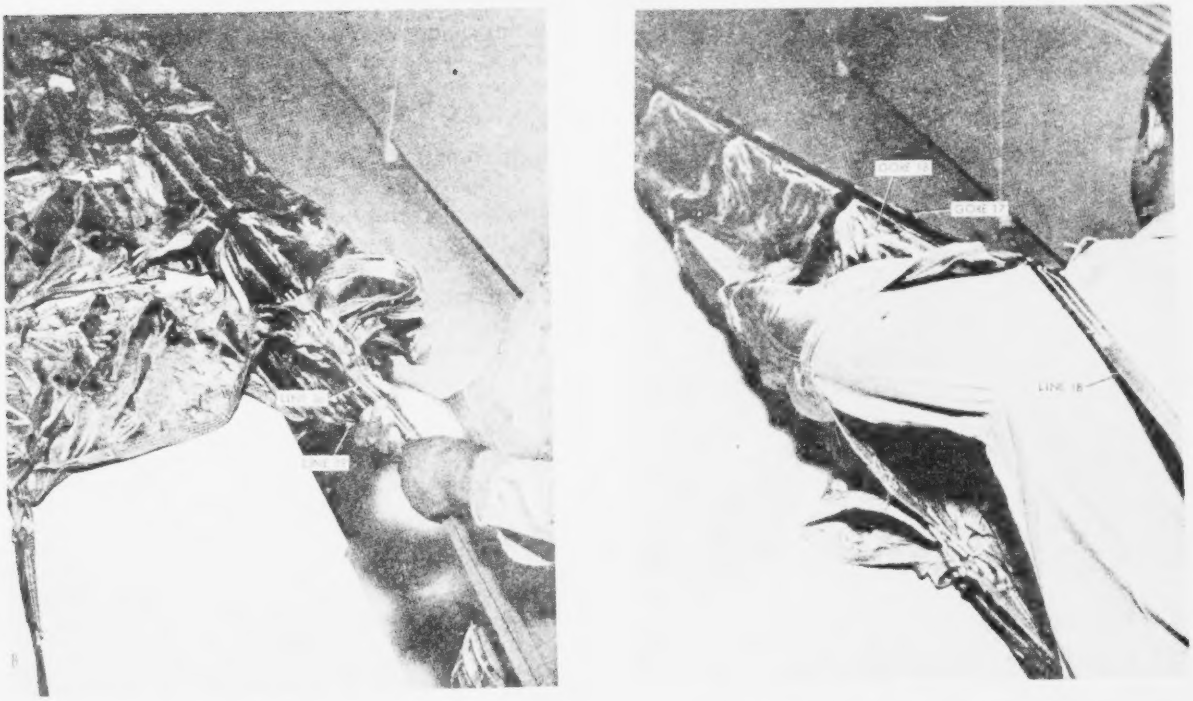
d. Take lines 19 through 36 in the left hand, being careful to keep the lines in order, and scissor the lines from the top between the middle finger and forefinger of the right hand (fig. 2-191, view B). Rotate lines 19 through 36 one-quarter turn clockwise until line 36 is lying to the right of the group and line 19 to the left.

e. Pick up line 1 with the left hand and raise the line sufficiently to expose the top center gore. Bring the left hand down to the right hand, with the top center gore folded neatly over the right group of gores. Place line 1 between the thumb and forefinger of the right hand. Repeat this procedure for lines 2 through 17.

f. Grasp gore 17 with the left hand at a point approximately five inches to the right of line 18 and insert the left elbow under gore 18. Lower line 18, allowing gore 17 to drape to the right of line 18, and gore 18 to drape to the left (fig. 1-191, view C). Place line 18 over line 17, between the thumb and forefinger of the right hand.


LINE 20
LINE 19

View A. Exposing gore 19.


GORE 18
GORE 17
LINE 18

View B. Scissoring the lines.

View C. Folding the last gore.

Figure 2-191. Folding the canopy gores, heavy duty 28-foot-diameter cargo extraction parachute.

g. With all 36 suspension lines now held by the right hand, place the suspension lines in the line separator, fitting lines 19 through 36 in the left slot and lines 18 through 1 in the right slot. Insure that the baseplate of the line separator points toward the canopy skirt.

h. Holding the suspension lines and lines separator in the left hand, grasp the radial tapes with the right hand at a point three feet from the skirt reinforcement (lower lateral band), and pull the canopy away from the table until all gores drape to the side of the table.

i. Slide the canopy back onto the table, rotating the suspension lines and line separator counterclockwise until the line separator baseplate is flat on the table. Place a packing weight across the suspension lines at a point adjacent to the line separator. Adjust the tension on the canopy and suspension lines at the tension plate, applying sufficient tension to hold the lines tight.

j. Insert the left hand between the gores at radial seam 36. Grasp the top 18 gores and place the gores on the left side of the table. Gore 36 should now be the top gore of the left group of gores (fig. 2-192)

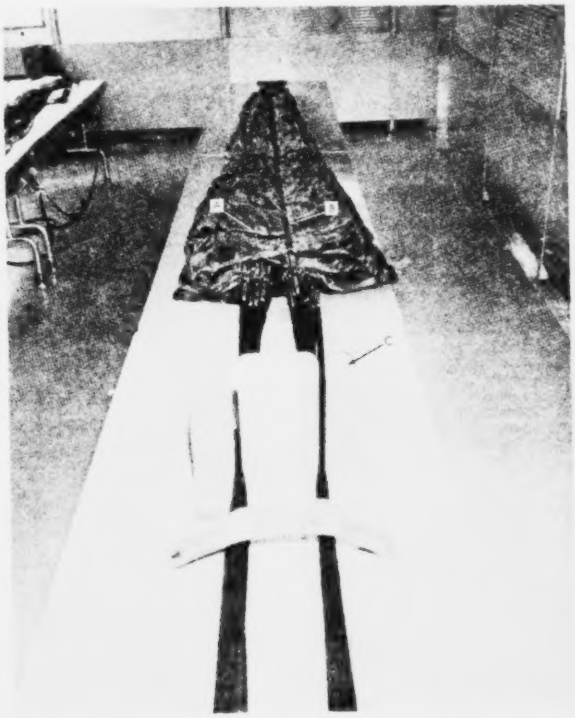
k. With the right hand, grasp the corners of the top 17 gores of the right and left group of gores. Leave the corner of the bottom gore of the right and left gore group flat on the table.

l. Dress the bottom gores of both groups of gores.

m. Place the fingers of the left hand under the bottom gore of the left gore group and the fingers of the right hand under the bottom gore of the right gore group. Gently pull on the edges of the bottom gores. Dress the bottom gores from the skirt.

n. Working from the vent reinforcement (upper lateral band) to the folds at the skirt reinforcement (lower lateral band), remove the wrinkles from the top gores, brushing with the fingertips from the radial seam toward the folded edges.

o. Straighten the skirt reinforcement (lower lateral band) of the left group of gores by pulling on each gore corner as it is placed back on the table. Count the gores as they are placed on the table to insure there are 18 gores in the left group. Repeat this procedure for the right group of gores.



A. Gore 36. B. Radial seam 36. C. Line separator.

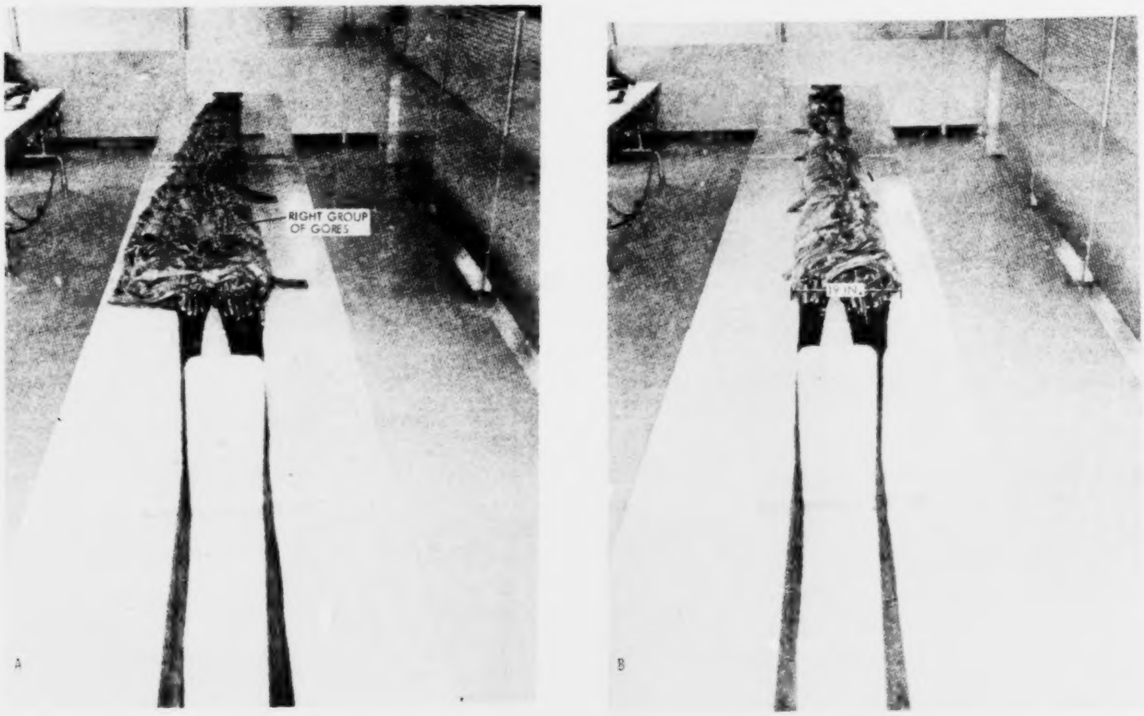
Figure 2-192. Flatfold completed, heavy duty 28-foot-diameter cargo extraction parachute.

p. Lift line 36 and check the channel between the two groups of gores to insure that the channel is clear of canopy fabric. If the channel is not clear, gently pull along the folded edges of the gores to remove the fabric from the channel. If the channel cannot be cleared in this manner, repeat the entire gore folding procedure. Return line 36 to the line separator.

2-100. Longfolding the Canopy.

The left and right groups of gores are folded over radial seam 36 to achieve a width of 19 inches between the edge folds at the lower edge of the canopy skirt. The width measurement is required to permit proper stowage of the canopy in the deployment bag. Longfold the gores as follows:

a. Longfold the right group of gores by folding the edges of the gores over radial seam 36. Temporarily secure the folded gores with packing weights (fig. 2-193, view A).



View A. Right group of gores folded.

View B. Longfolding completed.

Figure 2-193. Longfolding the canopy, heavy duty 28-foot-diameter cargo extraction parachute.

b. Longfold the left group of gores over the edges of the folded right gore group and insure the 19-inch width measurement is obtained at the canopy skirt. (fig. 2-193, view B). Secure folded gore groups with packing weights.

c. Release tension on the canopy assembly and remove tension devices.

2-101. Attaching the Deployment Bag.

If the deployment bag is not attached to the vent loop (bridle loop), attach the bag retaining line as follows:

NOTE

Wrap each suspension line connector link with two-inch wide, pressure sensitive adhesive cloth tape. Start at a point one inch above the connector link. Wrap so that the tape will cover twice around each point and overlap. Care must be taken so as end the wrap at a point 1-inch below connector link on web adapter.

a. Cut a suitable length of 1-inch wide tubular nylon webbing for use as a bag retaining line.

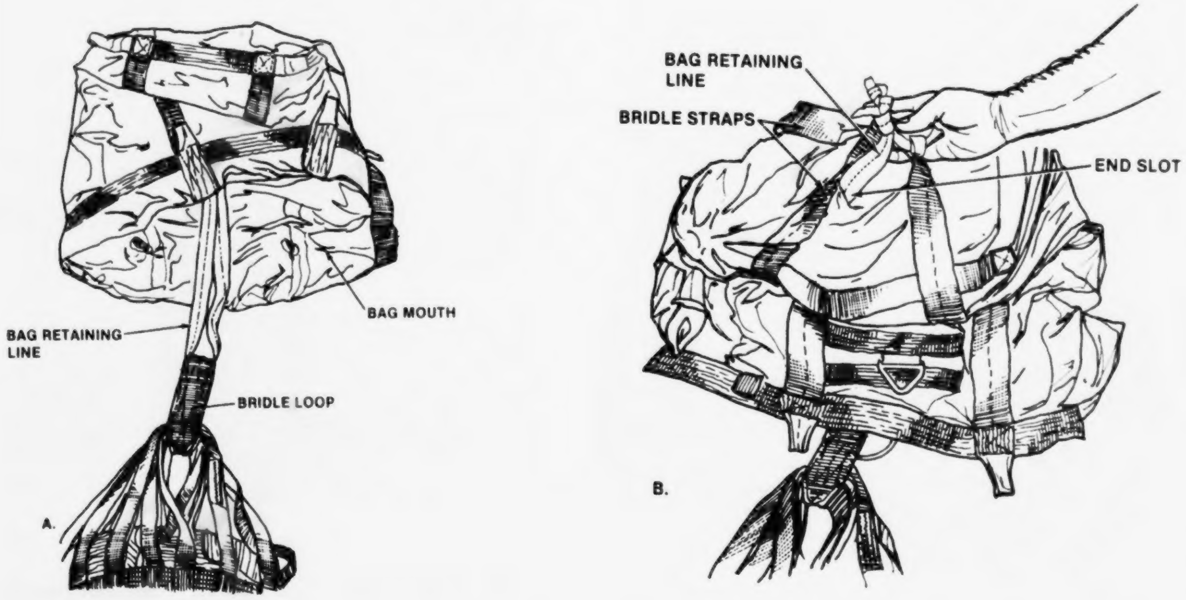
b. Pass one end of the bag retaining line through the canopy vent loop (bridle loop) and center the line length in the loop.

c. Align the webbing ends and pass the aligned ends into the bag mouth (fig. 2-194, view A) through the inside of the bag, and out of the bag end slot.

d. Position the end of the canopy vent loop (bridle loop) at the mouth of the deploy loop bag.

e. At the bag top, pass one running end of the retaining line over the top of the deployment bag bridle straps and pass the opposite line running end under the bridle straps.

f. Secure the webbing ends together above the bag bridle straps with a surgeon's knot and a locking knot. Make an overhand knot in each running end (fig. 2-194, view B). The bag retaining line finished length shall measure approximately the same as the length of the deployment bag.



View A. Bag retaining line ends extended into bag mouth.

View B. Bag retaining line ends secured above deployment bag bridle straps.

Figure 2-194. Installing the deployment bag retaining line, heavy duty 28-foot-diameter cargo extraction parachute.

2-102. Stowing the Canopy.

a. Make the first stow of the canopy at the inside upper right corner of the deployment bag. Make the second stow at the inside upper left corner of the bag and continue to make S-fold stows across the width of the bag until the canopy is completely stowed.

b. Make one fold of suspension lines from left to right across the stowed canopy skirt.

c. Pass a length of one turn double, ticket No. 5 cotton thread, under the suspension lines, through the two bag inside tie loops, across the top of the suspension lines, and join the doubled thread ends to make a tie with a surgeon's knot and a locking knot (fig. 2-195). This tie provides a skirt hesitator.

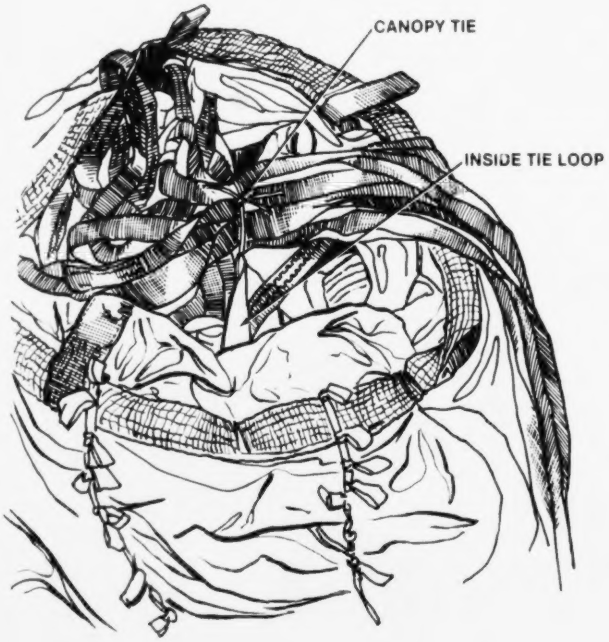
2-103. Stowing the Suspension Lines.

a. Install rubber retainer bands at equal intervals along the stow loops on the deployment bag suspension line stowage flap.

NOTE

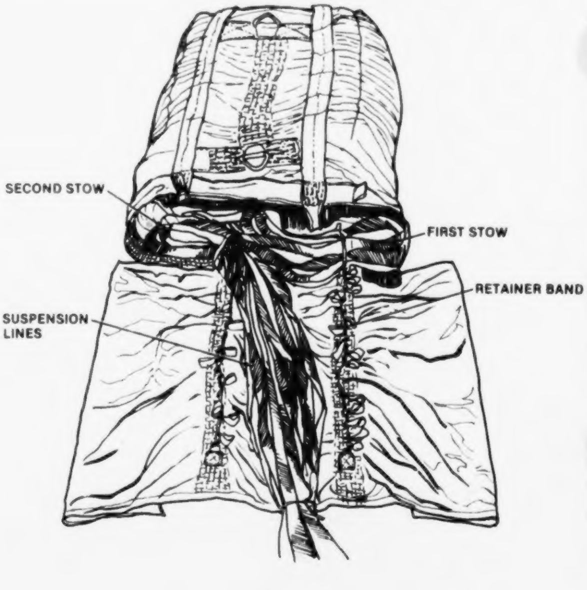
All suspension line stows on the heavy duty 28-foot-diameter cargo extraction parachute will be secured with rubber retaining bands.

b. Form the first suspension line stow (fig. 2-196) at the upper right corner of the stowage flap and secure the stow with a rubber retaining band.



A. Canopy tie. B. Inside tie loop.

Figure 2-195. Inside bag loop tie completed, heavy duty 28-foot-diameter cargo extraction parachute.



A. First stow. C. Retainer band.

B. Second stow. D. Suspension lines.

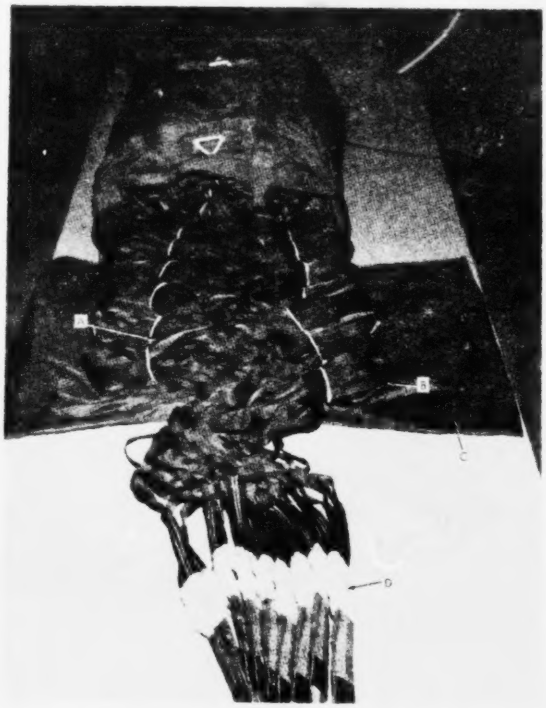
Figure 2-196. First and second suspension line stows completed, heavy duty 28-foot-diameter cargo extraction parachute.

c. Form and secure the second suspension line stow at the upper left corner of the stowage flap.

d. Continue stowing the suspension lines on the stowage flap from left to right alternately until the last stow, which is secured at the lower right of the stowage flap, is within ten inches of the suspension line connector links (fig. 2-197).

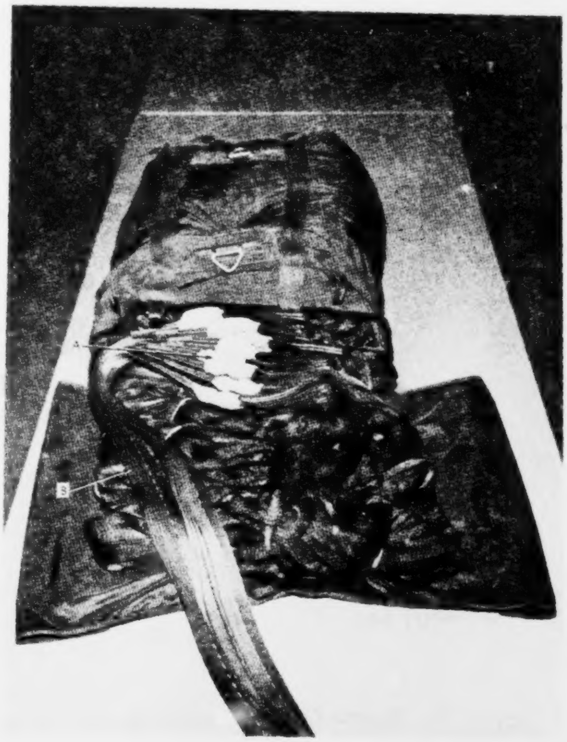
2-104. Closing the Deployment Bag.

a. Position the taped suspension line connector links on the inside center of the deployment bag against the skirt hesitator tie (fig. 2-198). Insure the adapter web extends from the left side of the bag.



A. Suspension line stows.
B. Last stow.
C. Stowage flap.
D. Suspension line connector links.

Figure 2-197. Suspension line stows completed, heavy duty 28-foot-diameter cargo extraction parachute.

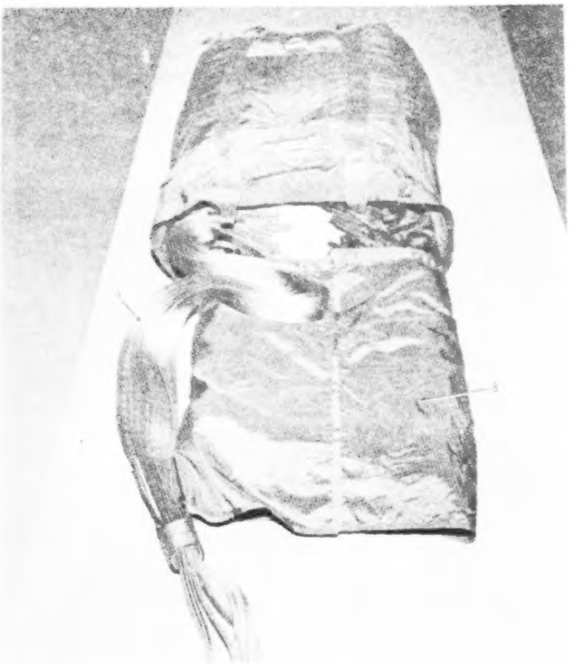


A. Taped connector links.
B. Adapter web.

Figure 2-198. Suspension line connector links stowed, heavy duty 28-foot-diameter cargo extraction parachute.

b. S-fold five to six feet of the adapter web on top of the taped connector links and insure the adapter web free end extends from the left side of the deployment bag by ten to twelve inches.

c. Fold the left and right sides of the stowage flap over the stowed suspension lines (fig. 2-199).



A. Adapter web.

B. Stowage flap.

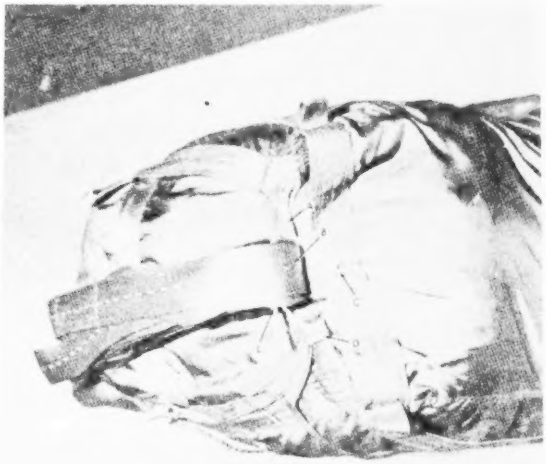
Figure 2-199. Stowage flap closed, heavy duty 28-foot-diameter cargo extraction parachute.

d. Tightly roll the suspension line stowage flap into the open end of the deployment bag.

e. Position the adapter web lengthwise from left to right across the rolled suspension line stowage flap.

f. Using a length of one turn single, type I, 1/4-inch-wide cotton webbing, make the left bag tie by passing one end of the webbing through the bottom bag closing loop, under the adapter web, through the top bag closing loop, and secure the webbing ends on top of the adapter web with a surgeon's knot and a locking knot. Trim tie ends to one to two inches.

g. Make the right deployment bag closing tie (fig. 2-200) with a length of one turn single, type I, 1/4-inch-wide cotton webbing. Pass one end of the webbing through the bottom bag closing loop, under the adapter web, through the adjacent side panel bag grommet, through the top bag closing loop, and secure the webbing ends on top of the adapter web with a surgeon's knot and a locking knot. Trim tie ends to one to two inches.



A. Top bag closing loop.

B. Adapter web.

C. Bag grommet hole.

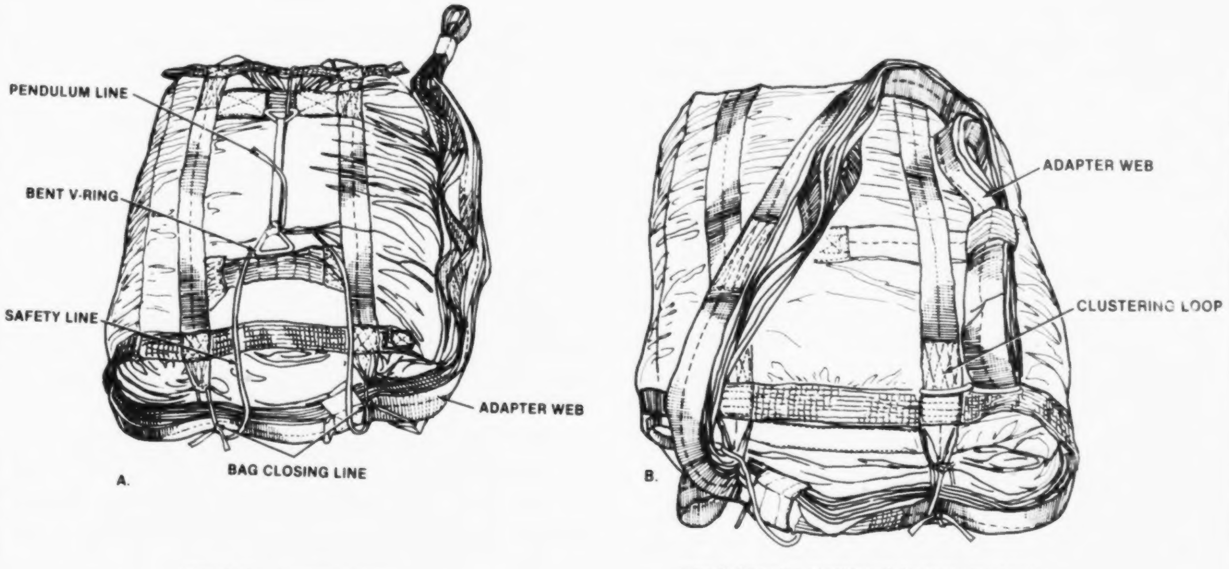
D. Bottom bag closing loop.

E. Bag closing tie.

Figure 2-200. The right deployment bag closing tie completed, heavy duty 28-foot-diameter cargo extraction parachute.

h. Position the safety line over the bent V-ring on top of the deployment bag. (fig: 2-201, view A) and bring pendulum line up through bottom V-ring, then safely tie off to bent V-ring. This completes the closing of the deployment bag.

i. To secure adapter web to deployment bag, flip the deployment bag over. Take the clustering loops with a 1/4-inch cotton webbing, as shown in figure 2-201, view B.


PENDULUM LINE
BENT V-RING
SAFETY LINE
ADAPTER WEB
A.
BAG CLOSING LINE
B.
ADAPTER WEB
CLUSTERING LOOP

View A. Bag closure complete.

View B. Securing adapter web to deployment bag.

View A. Bag closure complete.

B. Bent V-ring.
C. Safety line.
D. Adapter web.
E. Bag closing line.

View B. Securing adapter web to deployment bag.

A. Adapter web.
B. Clustering loop.

Figure 2-201. Closing the bag, heavy duty 28-foot-diameter cargo extraction parachute.

SECTION XIII. - LAPES PACKING PROCEDURES FOR HEAVY DUTY EXTRACTION PARACHUTE

2-105. Description of the 60 Foot Extension Lines.

The 60-foot extraction lines are constructed of type XXVI nylon webbing. There are two sliding keepers on each line. The 60-foot extraction line has 27 keepers (fig. 2-202).

NOTE

The 60-foot extraction lines do not come with the heavy duty 28-foot extraction parachute.

2-105.1. General.

a. These packing procedures apply to the heavy duty, 28-foot cargo extraction parachute when used for LAPES delivery only. The parachute is used singly and in clusters of two and three depending upon the weight of the load to be extracted. The method of packing the parachute is essentially the same for all three applications with the exception of the breakcord tie, which will be specified within the applicable procedure.

b. Each extraction parachute will be inspected and repacked at scheduled intervals as directed by TM 10-1670-201-23. After an extraction parachute is packed, the applicable individual parachute inspection data record (Log Record) (DA Form 3912) or (DA Form 10-42) will be accomplished as outlined in TM 10-1670-201-23.

c. Pack the heavy duty extraction parachute in accordance with paragraph 2-99 thru 2-100 longfolding the canopy. Continue with the packing procedure as follows:

2-105.2. Breakcord Tie.

a. For Single Parachute Application.

(1) Pass the canopy vent loop (bridle loop) through the deployment bag end slot.

(2) Cut an 18-inch length of Cord, Nylon, Type III (550-lb) for use as the canopy breakcord.

(3) Using one turn single, pass the Type III Nylon Cord through the canopy bridle loop and around the deployment bag bridle loop straps. Secure with a surgeon's knot, locking knot, and overhand knot.

NOTE

This breakcord must be rerouted through the extraction line deployment bag bridle legs connector links when assembled to the extraction line bag.

b. For Double and Triple Parachute Applications:

(1) Pass the canopy vent loop (bridle loop) through the deployment bag end slot.

(2) Cut an 18-inch length of Webbing, Textile, Cotton, 1 4-inch width, Natural, Type I (80-lb), NSN 8305-00-268-2411 for use as the canopy breakcord.

(3) Using one turn single, pass the 1 4- inch cotton webbing through the canopy bridle loop and around the deployment bag bridle loop straps. Secure with a surgeon's knot, locking knot, and overhand knot. (Fig. 2-202-A).

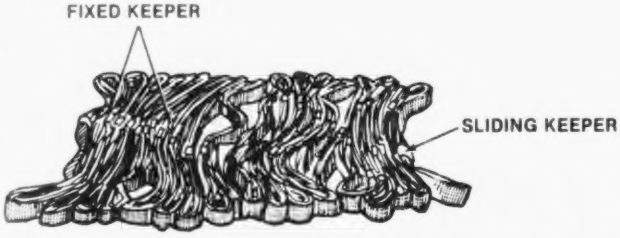


Figure 2-202. The 60-foot extraction line, heavy duty 28-foot diameter cargo extraction parachute.

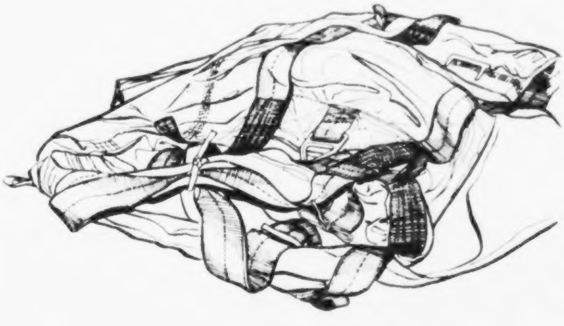


Figure 2-202A. Breakcord Tied.

2-105.3. Stowing the Canopy.

a. Make the first stow of the canopy at the inside upper right corner of the deployment bag. Make the second stow at the inside upper left corner of the bag, and continue to make S-fold stows across the width of the bag until the canopy is completely stowed.

b. Make one fold of suspension lines from left to right across the stowed canopy skirt.

c. Pass a length of one turn double, ticket No. 5 cotton thread under the suspension lines, through the two bags inside tie loops, across the top of the suspension lines and join the doubled thread ends to make a tie with a surgeon's knot and a locking knot. This tie provides a skirt hesitator. (Fig. 2-202-B).

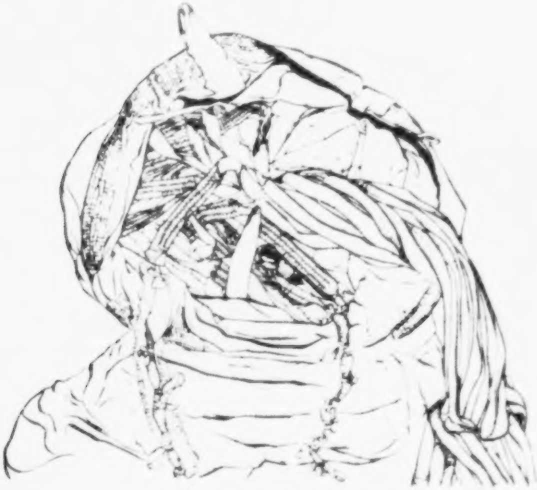


Figure 2-202B. Suspension Line Tie at Skirt.

2-105.4. Stowing the Suspension Lines.

a. Install rubber retianer bands at equal intervals along the stow loops on the deployment bag suspension line stowage flap.

NOTE

All suspension line stows on the 28-foot diameter cargo extraction parachute will be secured with rubber retaining band.

b. Form the first suspension line stow at the upper right corner of the stowage flap and secure the stow with a rubber retaining band. (Figure 2-202C).

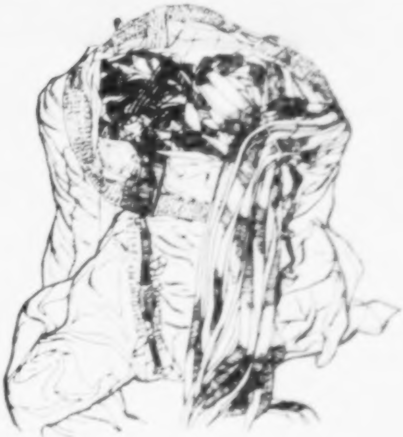


Figure 2-202C. First Suspension Line Stow.

c. Form and secure the second suspension line stow at the upper left hand corner of the stowage flap.

d. Continue stowing the suspension lines on the stowage flap from left to right alternately until the last stow, which is secured at the lower right of the stowage flap, is within 10 inches of the suspension line connector links. (Fig. 2-202D).

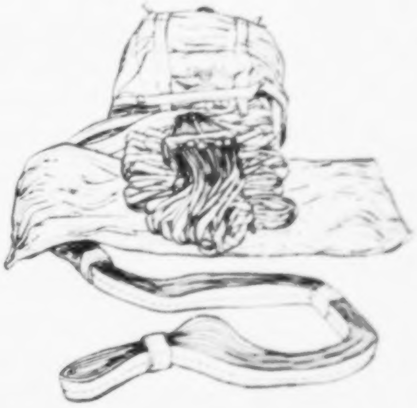


Figure 2-202D. Suspension Line Stows Completed.

2-105.5. Closing the Deployment Bag.

a. Position the taped suspension line connector links on the inside center of the deployment bag against the skirt hesitator tie. Insure the adapter web extends from the left side of the bag.

b. S-fold 4 to 5 feet of the adapter web on top of the taped connector links and insure the adapter web free end extends from the left side of the deployment bag by 4 feet.

c. Fold the left and right sides of the stowage flap over the stowed suspension lines. Tack corners of flaps together with one turn ticket No. 3 cotton thread and tie surgeon's and locking knot. (Fig. 2-202E).

d. Tightly roll the suspension line stowage flap into the open end of the deployment bag.

e. Position the adapter web lengthwise from left to right across the rolled suspension line stowage flap. Make bag closing ties with one turn doubled ticket No. 5 thread, tied with surgeon's and locking knot.

f. Thread the end of a 60-inch length of 1 2 inch tubular nylon (1000-lb) up through the bottom left and up through the top left bag closing loop, through the miniature cutter knife (PN 71172) between the blade and the reinforcement safety bar. Cross the tubular nylon at the knife and thread the running ends through the opposite corner of the right bag closing loops. Secure between the right closing loops with a surgeon's knot and a locking knot. Put an overhand knot in the running ends.

g. Safety tie on the miniature cutter knife. Pass one turn double ticket No. 5 cotton thread through the holes above the reinforcing safety bar of the cutter knife. Secure with a surgeon's knot and a locking knot. (Fig. 2-202F).

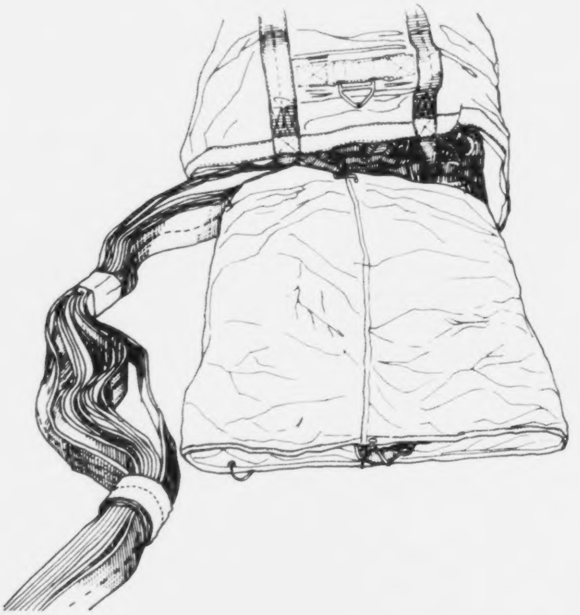


Figure 2-202E. Suspension Line Protector Flap Closed.

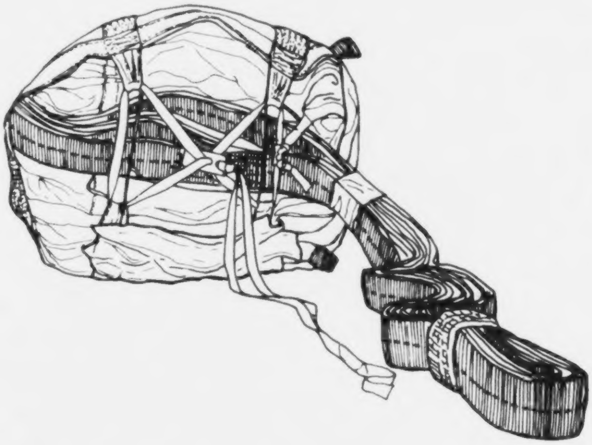


Figure 2-202F. Safety Tie Completed.

SECTION XIII.I PACKING PROCEDURES FOR THE EXTRACTION LINE DEPLOYMENT BAG

BAG PART I SINGLE PARACHUTE

2-105.6. Layout.

a. Position the bag top panel lengthwise on a packing table with the panel facing up.

b. Immediately below the top panel, position the bag bottom panel lengthwise with the inside panel up.

c. Position a 60-foot, 6-ply extraction line at the lower end of the table.

d. Cut forty-seven 24-inch lengths of 1 4-inch cotton webbing (80-lb) for use as extraction line stow ties. (Fig. 2-202G).

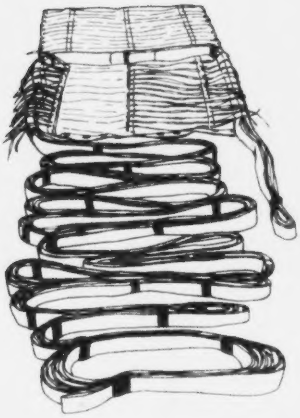


Figure 2-202G. Extraction Line Breakties in Place

2-105.7. Stowing the Extraction Line.

a. Extend one end of the extraction line to the bottom panel and position the end loop at a point 36 inches below the panel upper left corner.

b. Beginning at the upper left corner of the panel, extend the extraction line along the inside of the left side grommet row to the lower left corner.

c. Using one turn of the stow breaktie material, secure the extended line length to the first, fifth, ninth, and thirteenth grommets from the upper left.

NOTE

Secure each tie with a surgeon's knot and locking knot. Insure each tie is made loose enough to preclude drawing the side grommet panel snug against the formed stow loop.

d. Pass the extraction line length across the lower end of the panel to the lower right corner. Secure the extended line length to the first, fifth, eighth, and twelfth grommets from the lower left corner, using one turn of the stow breaktie material.

e. Pass the extraction line length back to the panel lower left corner, inside the stowed line. Secure the extended line length to the panel cotton loops in rows 1, 2, 3, using one turn of the stow breaktie material.

f. Working from right to left alternately, continue S-folding-stowing the extraction line length to the cotton loops as shown until there is approximately 15 feet of running extraction line remaining. The last tie is to be one turn, doubled, of the stow breaktie material on the upper right side. (Fig. 2-202H).

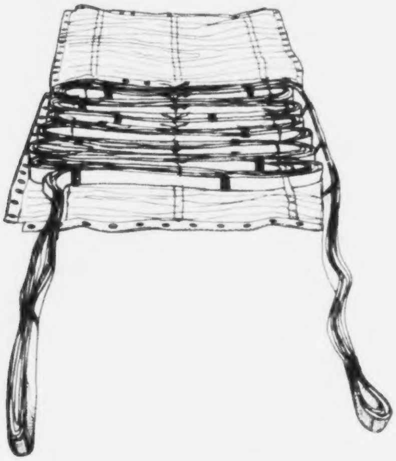


Figure 2-202H. Break Ties Installed.

2-105.8. Bag Closing Procedure.

a. Place the bag top panel on top of the bottom panel stowed extraction line and align with the upper end of the bottom panel.

b. Cut two 8-foot lengths of 1 4-inch cotton webbing (80-lb) for use as lacing material to close the bottom and side of the line bag.

c. Tie one length of lacing material to grommet 7 at the lower end of the bottom panel, pass the running end up through grommet at the lower end of the top panel. Then pass the running end down through grommet 7 of the top panel and from outside to inside through grommet 7 of the bottom panel. Continue bag closure as described above to across the bottom and up the right side of the bag. Secure the lacing material to the uppermost grommet on the right side of the bag with a double half hitch and an overhand knot.

d. Tie the second length of lacing material to grommet 6 at the lower end of the bottom panel. Pass the running end up through grommet 6 at the lower end of the top panel. Continuelacing the panels as described in paragraph 3 above across the bottom and up the left side of the bag. Secure lacing material to the uppermost grommet on the left side of the bag with a double half hitch and an overhand knot.

e. Cut a 4-foot length of Thread, Cotton, Ticket No. 5, for use as lacing material in closing the mouth of the bag. Beginning at the bag upper right corner secure the lacing material to the first grommet, lace the bag mouth closed using the method described in paragraph 3 above. Complete the lacing at the last grommet at the bag upper left hand corner. (Fig. 2-202I).

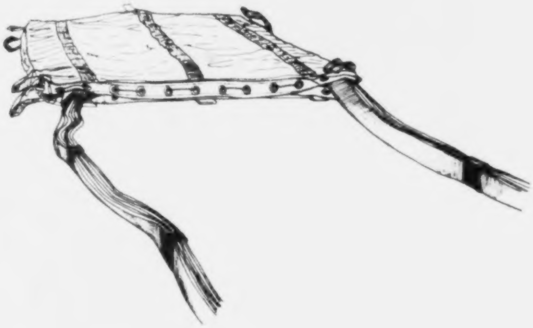
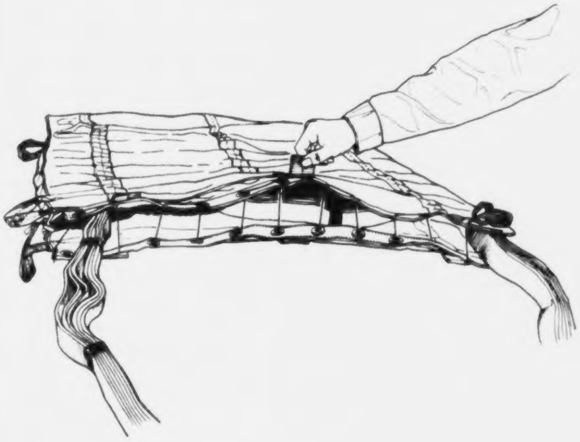


Figure 2-202I. Mouth of Bag Temporary Lacing (Views A and B).



NOTE

When closing the bag mouth, insure that the 36-inch length of the extraction line running end extends from the left hand side and the 15-foot length of extraction line running end extends from the right side. Using a suitable length of 1 4-inch Cotton Webbing, Safety, tie the mouth of the bag, as in Fig. 2-202J. This tie is a temporary tie and must be removed prior to use.

2-105.9. Attaching the Extraction Line Deployment Bridle Bag.

Using 6 parachute connector links, attach the extraction line bag bridle to the 6 bridle attachment loops located on the top and bottom bag end. (Fig. 2-202K).

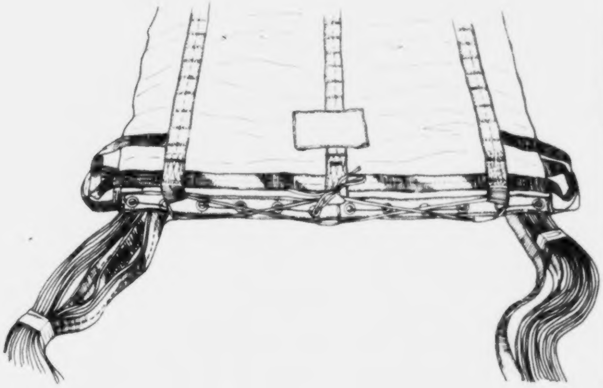


Figure 2-202J. Temporary Tie Completed.

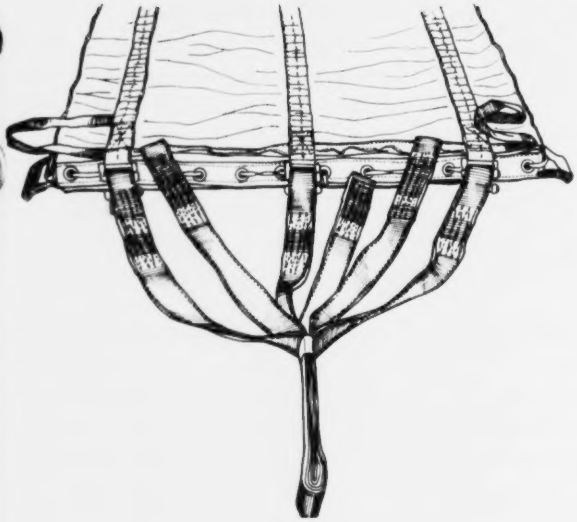


Figure 2-202K. Extraction Line Bag Bridle Installed.

SECTION XIII.II PACKING PROCEDURES FOR THE EXTRACTION LINE DEPLOYMENT BAG

PART II DOUBLE AND TRIPLE PARACHUTE APPLICATION

2-105.10. Layout.

a. Positior [illegible] of Kraft paper the size of a bag panel, le [illegible] on packing table.

b. Position a 5[illegible]ot drogue line and a top and bottom line bag panel with the inside facing up on the packing table.

c. Position a 60-foot, 12-ply extraction line at the lower end of the table.

d. Cut forty-seven 24-inch lengths of 1 4-inch cotton webbing (80-lb) for use as extraction line stow ties.

2-105.11. Stowing the Extraction Line. The extraction line is stowed as described in Part I; paragraph 2-105.7.

2-105.12. Stowing the Drogue Line.

a. Cut fifty-nine 12-inch lengths of Thread, Cotton, Ticket No. 5 for use as drogue line stow break material.

b. Extend one end of the drogue line to the top panel and position the end loop at a point 40 inches beyond the upper edge of the panel at the center point. Secure the drogue line to the panel between grommets 6 and 7 with one turn of Thread, Cotton, Ticket No. 5.

c. Beginning at the upper center of the top panel, pass the drogue line across the upper part of the panel to the left side. Secure the line to the cotton loops in rows 1, 2, and 3, using one turn of the stow break material.

NOTE

Use the uppermost available cotton loops when securing the extended line length.

d. Pass the line length back to the panel upper right side. Secure the line length to the cotton loops in rows 1,2, and 3, using one turn of the stow break material.

e. Continue S-folding and stowing the drogue line as described above until approximately 36 inches of running drogue line remains. The last stow breaktie is one turn double of Thread, Cotton, Ticket No. 5 on the lower right side. (Fig. 2-202L).

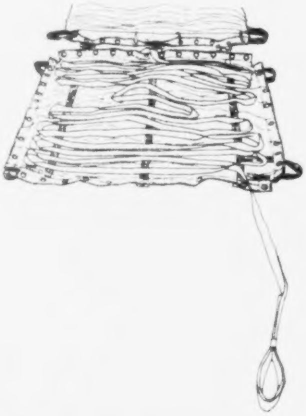


Figure 2-202L. Stowing the Drogue Line.

2-105.13. Bag Closing Procedures.

a. Place the Kraft paper on top of the bottom panel stowed extraction line and align with the upper end of the bottom panel. (Fig. 2-202M).

b. Place the top panel on top of the bottom panel and the aft paper and align with the upper end of the bottom panel. Be certain that the drogue line extends from the center of the line bag. (Fig. 2-202N).

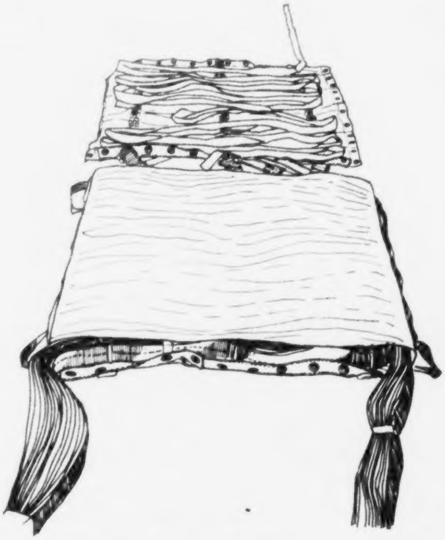


Figure 2-202M. Kraft Paper in Place.

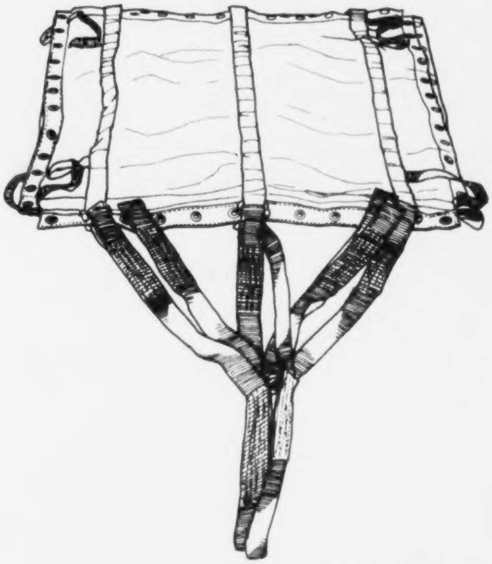


Figure 2-202N. Bag Positioned for Closing.

c. Lace the bag closed as described in Part I, paragraph C.

NOTE

When closing the mouth of the bag, insure that the 36-inch length of the extraction line and the drogue line extends from the right side and the 15-foot length of extraction line extends from the left side. (Fig. 2-202O).

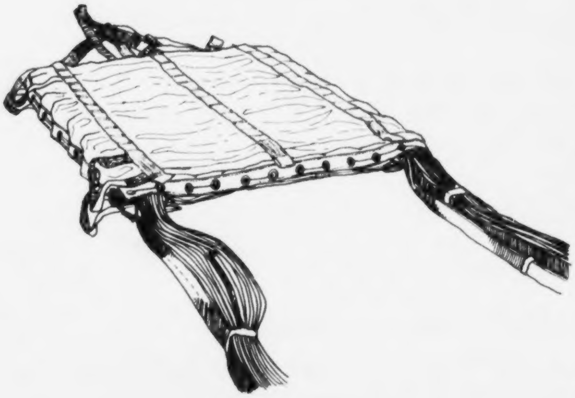


Figure 2-202O. Bag Closed.

2-105.14. Attaching the Extraction Line Deployment Bag Bridle. Using 6 parachute connector links, attach the extraction line bag bridle to the 6 bridle attachment loops located on the top and bottom bag end. (Fig. 2-202K).

SECTION XIII.III RIGGING PROCEDURES

2-105.15. Rigging Procedures Part I Single Parachute.

a. Place an extraction line deployment bag packed with a 6-ply extraction line on a packing table with the bridle towards the bottom of the table.

b. Place the parachute on its wide side, centered, on top of the extraction line deployment bag with the deployment bag bridle even with the bottom edge of the line bag and the V-rings on top.

c. Cut four 3-foot lengths of 1 4-inch cotton webbing for bag ties. Secure one length of the 1 4-inch cotton webbing, doubled, to the deployment bag bottom tie loop and pass the running end through the bottom extraction line deployment bag handle at each of four corners. Secure with alternating half hitches.

d. Place parachute connector links through the loops of the two outside center straps of the extraction line deployment bag bridle loop straps and the deployment bag bridle straps. Remove the Cord, Nylon, Type III, used as a breakcord tie from the parachute and retie another breakcord using Cord, Nylon, Type III, and pass it through the canopy bridle loop and the two parachute connector links installed above. (Fig. 2-202P).

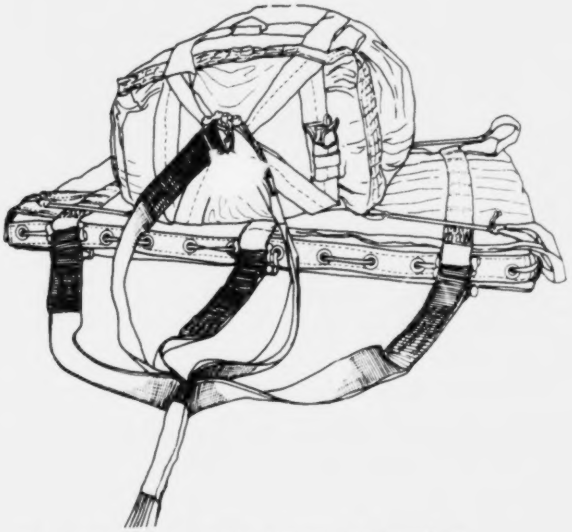


Figure 2-202P. Bag Bridle Attached to Parachute.

e. Position the towplate clevis link down flat with the tapered end away from the extraction line deployment bag bridle. Disengage the clevis retainer pin which holds the clevis together. The clevis will separate into two parts. Take the larger of the two parts and attach it to the end loop of the extraction line bag bridle. Reassemble the tow plate clevis link. (Fig. 2-202Q).

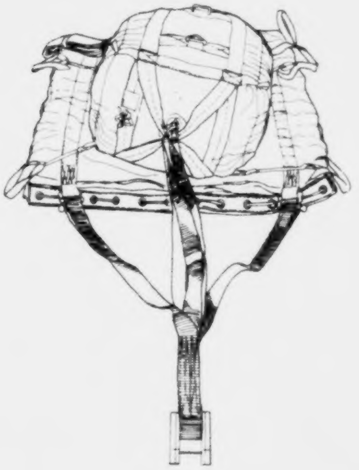


Figure 2-202Q. Towplate Clevis Link Attached.

f. Connect the parachute adapter web end loop to the center bolt of a 2-point clevis.

g. Connect the 36-inch running end of the extraction line to the opposite center bolt of the 2-point clevis.

h. Cut a length of 1 2-inch tubular nylon webbing to be used as a deployment bag cutter knife lanyard.

i. Attach the deployment bag cutter knife lanyard from the cutter knife to the top bolt of the 2-point clevis. Insure that the lanyard, when extended, is at least 2 inches shorter than the parachute adapter web length between the 2-point clevis bolt and the first contact of the figure eight tie. (Fig. 2-202R).

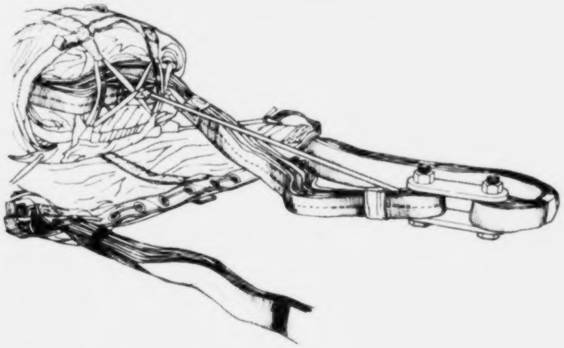


Figure 2-202R. Two Point Link Attached.

j. Cut one 2-foot length of Cord, Nylon, Type III to be used for 2-point clevis breakties.

k. Cut one turn of Cord, Nylon, Type III, pass one end around the top bolt of the 2-point clevis and through the top left bag closing loop. Pull taut and tie with a surgeon's knot and a locking knot.

l. Cut a 2-foot length of 1 4-inch cotton webbing. Double and secure the 36-inch length of extraction line to the top right deployment bag tie loop. (Fig. 2-202S).

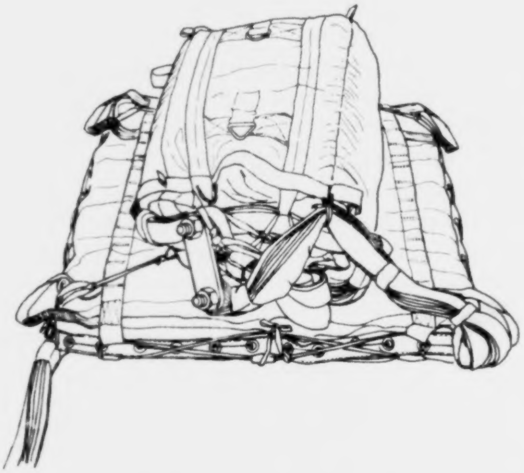


Figure 2-202S. Thirty-Six-inch Length of Extraction Line Tied in Place.

2-105.16. Rigging Procedures Part II Double Parachute.

a. Place an extraction line deployment bag packed with a 12-ply extraction line and drogue line on a packing table with the bridle towards the bottom of the table.

b. Place two parachutes on their wide side with the V-rings facing up, centered, on top of the extraction line deployment bag with the parachute bridles even with the bottom edge of the line bag. (Fig. 19).

c. Cut four 2-foot lengths of 1 4-inch cotton webbing to secure the two parachutes together. Double the 1 4-inch webbing and pass through the deployment bag tie loops, top and bottom, and front and rear. Tie with a surgeon's knot and locking knot.

d. Cut four 2-foot lengths of 1 4-inch cotton webbing for bag ties. Secure one length of the tie material, doubled, through the deployment bag bottom tie loop and pass the running end through the bottom extraction line deployment bag handle at each of four corners. Secure with alternating half hitches.

e. Place parachute connector links through the loops of the two outside center straps of the extraction line deployment bag bridles and the deployment bag bridle straps.

f. Position the two plate clevis link down flat with the tapered end away from the extraction line deployment bag bridle. Disengage the clevis retainer pin which holds the clevis together. The clevis will separate into two parts. Take the larger of the two parts and attach it to the end loop of the extraction line bag bridle and drogue line. Reassemble the tow plate clevis link. (Fig. 2-202T).

g. Connect the adapter web of the left parachute to the left bolt of a 4-point clevis. Connect the adapter web of the right parachute to the right bolt of the of the same clevis. Connect the drogue line to the middle bolt of the same clevis. Connect the 36inch running end of the extraction line to the opposite bolt of the clevis. (Figures 2-202U and 2-202V).

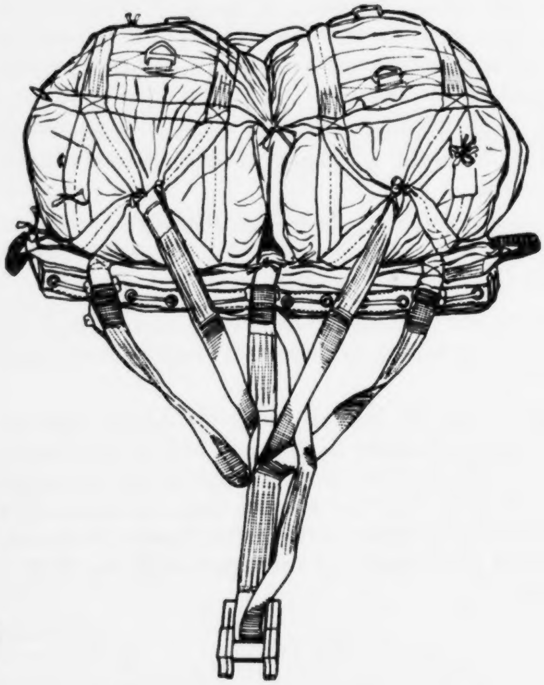


Figure 2-202T. Towplate Link Installed.

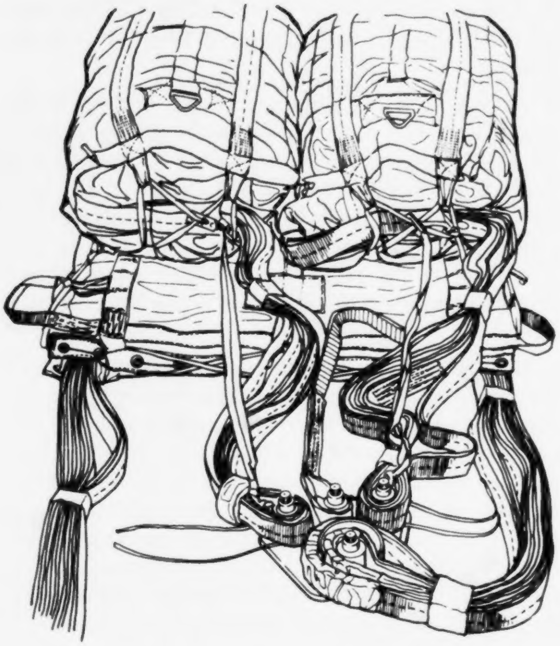
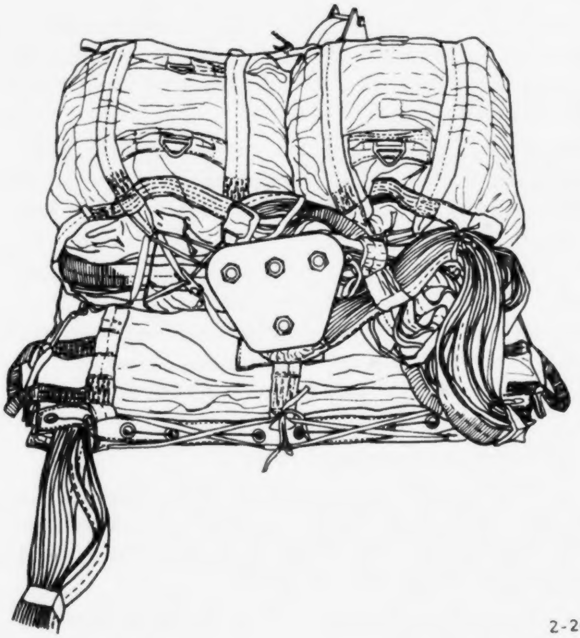


Figure 2-202U. Adapter Web Being Installed on 4-Point.



2-202V

Figure 2-202V. Adapter Webs Installed.

h. Cut two lengths of 1 2-inch tubular nylon webbing to be used as a deployment bag cutter knife lanyard.

i. Attach the deployment bag cutter knife lanyard from the cutter knife on the left parachute to the left bolt of the 4-point clevis. Attach the deployment bag cutter knife from the right parachute to the right bolt of the clevis. Insure that the lanyards, when extended, are at least 2 inches shorters than the parachute adapter web lengths between the 4-point clevis bolt and the first contact of the figure eight tie. (Fig. 2-202V).

j. Cut two 2-foot lengths of Cord, Nylon, Type III, to be used for clevis breakties. Using one turn of the breaktie material, pass one end around the left bolt of the 4-point clevis and through the top right bag closing loop of the left parachute. Pull taut and tie with a surgeon's knot and locking knot. Using one turn of the breaktie material, pass one end around the right bolt of the 4-point clevis and through the top left bag closing loop of the right parachute. Pull taut and tie with a surgeon's knot and a locking knot.

k. Cut a 2-foot length of 1 4-inch cotton webbing. Double and secure the 36-inch length of extraction line to the V-ring of the left parachute.

2-105.17. Rigging Procedures Part III Parachute.

a. Place an extraction line deployment bag packed with a 12-ply extraction line and drogue line on a packing table with the bridle towards the bottom of the table.

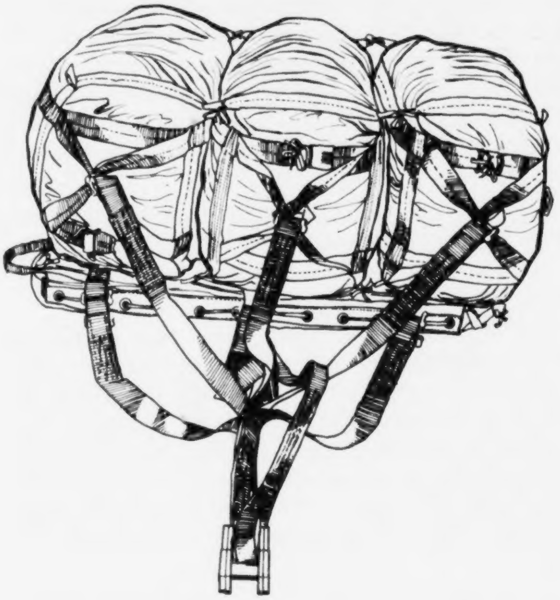
b. Place three parachutes on their narrow sides, centered, on top of the extraction line deployment bag with the parachute bridles even with the bottom edge of the line bag.

c. Cut eight 2-foot lengths of 1 4-inch cotton webbing for securing the parachutes together. Pass one length of the tie material, doubled, through each of the four top and bottom bag tie loops, pull tight, and secure with a surgeon's knot and a locking knot.

d. Same as paragraph 4, Part II.

e. Place parachute connector links through the loops of the three center straps of the extraction line deployment bag bridle and the deployment bag bridle straps. (Fig. 2-202W).

f. Same as paragraph 6, Part II. Figure 2-202W. Bag Bridle Attachment.



g. Connect the three parachute adapter webs to a 4-point clevis. Connect the drogue line to the middle bolt of the clevis. Connect the running end of the 36-inch length of extraction line to the opposite bolt of the clevis.

h. Cut 3 lengths of 1 2-inch tubular nylon webbing to be used as deployment bag cutter knife lanyards.

i. Attach the lanyard from the cutter knife on the left parachute to the left bolt of the 4-point clevis.

j. Attach the lanyard from the cutter knife of the middle parachute to the middle bolt of the 4-point clevis.

k. Attach the lanyard from the cutter knife on the right parachute to the right bolt of the 4-point clevis. Insure that the lanyards, when extended, are at least 2-inches shorter than the parachute adapter web lengths between the 4-point clevis bolt and the first contact of the figure eight tie. (Fig. 2-202X).

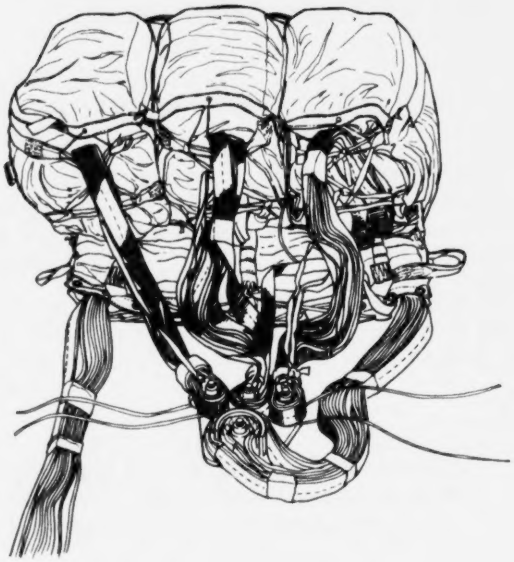


Figure 2-202X. Adapter Webs Being Installed on 4-Point Clevis.

l. Cut two 2-foot lengths of Cord, Nylon, Type III, to be used for clevis breakties. Using one turn of breaktie material, pass one end around the left clevis bolt and through the top bag closing loop of the left parachute. Pull tight and tie with a surgeon's knot and a locking knot.

m. Using one turn of breaktie material, pass one end around the right clevis bolt and through the top bag closing loop of the right parachute. Pull tight and secure with a surgeon's knot and a locking knot.

n. Cut a 2-foot length of 1 4-inch cotton webbing. Double and secure the 36-inch length of extraction line to the top right deployment bag tie loop of the right parachute. (Figures 2-202Y and 2-202Z).

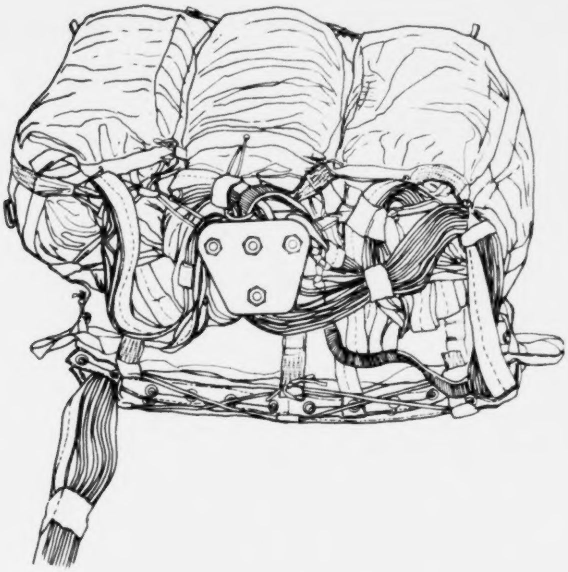


Figure 2-202Y. Adapter Webs Installed.

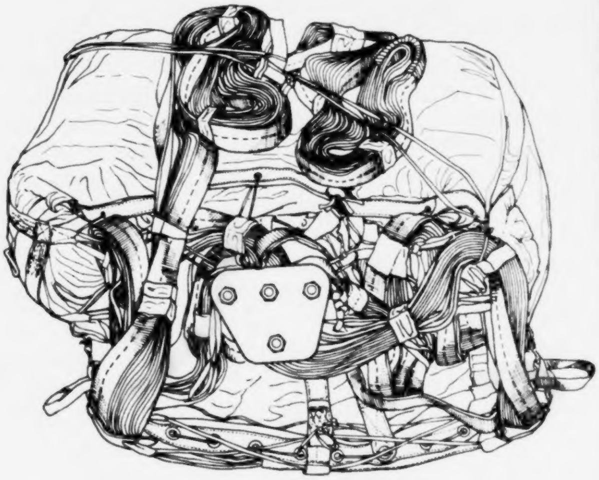


Figure 2-202Z. Extraction Line Tied in Place.

Section XIV. PACKING PROCEDURES FOR G11B PARACHUTE

2-106. G-11B Vent Pulldown Packing Procedures.

a. Perform proper layout as described in paragraph 2-5 except for taping of the suspension risers stated in paragraph 2-5e. This will be accomplished later.

b. Position a large pedestal fan about 10 feet below and 6 feet to the right of canopy skirt. Adjust the fan so the canopy will be partially inflated.

NOTE

Instructions in paragraph 2-66, serving the canopy vent lines are not required with the G-11B Cargo Parachute.

c. The No. 2 man holds the skirt shoulder high allowing the canopy to partially inflate. The No. 3 man slowly pulls the center line through canopy skirt toward the vent between lines 1 and 120. Deflate partially inflated canopy. If the center line is being installed, secure the center line temporarily to the bridle loop with one turn of 1/4 inch cotton webbing.

d. Reefing procedures are the same as those described in paragraphs 2-68 thru 2-70 with the exception that four Reefing Line Cutters must be accommodated and four 16-1/2 foot Reefing Lines are used.

(1) Cut four 16-1/2 foot lengths of 1/2 inch wide Tubular Nylon Webbing and tape 2 inches of the ends of each webbing length.

(2) With the Reefing Line Cutter at line 61, rotated upward, pass one end of a 16-1/2 foot reefing line from left to right through the hole [illegible] Reefing Line Cutter and pull 9 inches of reefing line through the cutter.

(3) Using the 9 inch length [illegible] reefing line, make a slip knot immediately to the right of the reefing line cutter to secure the reefing line during the reefing process.

(4) Using the Gore Folding Procedures in paragraph 2-70, begin at line 62, fold the gores and reef the canopy skirt until lines 61 through 90 are in the right slot of the suspension line separator.

(5) From right to left, pass the end of the reefing through the Reefing Line Cutter at line 91 and pull 9 inches through.

(6) Pass one end of the second reefing line, from left to right, through hole in the Reefing Line Cutter at line 91 and pull 9 inches through.

(7) Secure the two reefing line ends together over the Reefing Line Cutter at line 91 with a surgeon's knot and locking knot. Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

(8) Using the Gore Folding Procedures in paragraph 2-70, fold the gores and reef the canopy skirt between lines 91 and 120 until the right group of gores are folded and lines 61 through 120 are in the right slot of the suspension line separator.

(9) Rotate the Reefing Line Cutter at line 61 upward again and from right to left, pass one end of the third reefing line through the hole in the Reefing Line Cutter.

(10) Pull 9 inches of the third reefing line through the Reefing Line Cutter. Release the slip knot on the first reefing line.

(11) Secure the ends of the first and third reefing lines together over the Reefing Line Cutter at Line 61 with a surgeon's knot and locking knot. Make an overhand knot in each running end. Trim each tie end a point 2 inches from the surgeon's know and locking knot.

(12) Using the Gore Folding Procedures in paragraph 2-70, begin at line 60 fold the gores and reef the canopy skirt until lines 60 through 31 are in the left slot of the suspension line separator.

(13) From left to right, pass the end of the third reefing line through the reefing Line Cutter at line 31 and pull 9 inches through.

(14) Pass one end of the fourth reefing line, from right to left, through the hole in the Reefing Line Cutter at line 31 and pull 9 inches through.

(15) Secure the two reefing line ends together over the Reefing Line Cutter at line 31 with a surgeon's knot and locking knot. Make an overhead knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

(16) Using the Gore Folding Procedures in paragraph 2-70, fold the gores and reef the canopy skirt between line 31 and 1 until the left group of gores are folded and lines 60 through 1 are in the left slot of the suspension line separator.

(17) From left to right, pass the end of the fourth reefing line through the hole in the Reefing Line Cutter at line 1 and pull 9 inches through.

(18) From right to left, pass the end of the second reefing line through the hole in the Reefing Line Cutter at line 1 and pull 9 inches through.

(19) Secure the two reefing line ends together over the Reefing Line Cutter at line 1 with a surgeon's knot and locking knot. Make an overhand knot in each running end. Trim each tie end at a point 2 inches from the surgeon's knot and locking knot.

(20) Release tension on the canopy assembly.

(21) Remove bridle loop from anchor point and cut the temporary 1/4 inch cotton webbing tie previously installed.

e. To complete the center line installation straighten the upper lateral band of the canopy. Make sure the vent lines are centered and separated. (Figure 2-203.)

(1) Grasp lines and place shackle over vent lines (Fig. 2-204).

(2) Rotate vent lines over shackle (Fig. 2-205).

(3) Retain the center line to the vent lines by passing the shackle screw pin through the center line loop while installing the screw pin in the shackle. Tighten screw pin and vent line loops. Tape shackle vent line loop and center line so that no metal parts, splice ends or rough webbing ends are exposed, using pressure sensitive tape (Fig. 2-206).

(4) To resume packing No. 3 man slowly pulls the center line toward the canopy skirt in line with the riser clevis confluence point No. 1 and No. 2 man must make sure that the canopy material is not disarranged and is kept even when the upper portion of the canopy is pulled toward the skirt (Fig. 2-207).

(5) Remove one suspension riser from the large clevis (Fig. 2-208). After making sure that the center line is not wrapped around any suspension lines, place the center line on the clevis (Fig. 2-209) replace the suspension riser and tape risers per paragraph 2-5e.

(6) Make Canopy ties at 5 foot intervals along the folded canopy using Ticket No. 3 cotton

thread. Secure each tie with a surgeon's knot and locking knot.

(7) At a point 5 feet below the skirt of the canopy, tie each group of suspension lines separately with one turn single of Ticket No. 3 cotton thread and secure with a surgeon's knot and locking not. Tie both groups of suspension lines including the center line, together approximately 10 feet below the skirt of the canopy with one turn single of Ticket No. 3 cotton thread, and secure the tie with a surgeon's knot and locking knot (Fig. 2-153).

(8) Make additional ties in the same manner at 10 foot intervals along the suspension lines, the last tie being located 5 feet above the connector link assembly. Care should be taken to ensure that the center line is not wrapped around any of the suspension lines.

(9) Use procedures prescribed in para 2-71c. (1) thru (3) to begin link assembly tie.

(10) Cut the 1/4 inch cotton webbing into two equal lengths between the connector links, while threaded through, making two groups. Tie each group of ties separately and secure the ties with a surgeon's knot and a locking knot. Wrap the separate groups of connector links with two turns single of kraft paper. Secure the kraft paper with one turn single of Ticket No. 3 cotton thread at each end using a surgeon's knot and locking knot.

(11) Tie all suspension risers including the center line together in one group at a point 5 feet below the link assembly with Ticket No. 3 cotton thread, and secure with a surgeon's knot and locking knot. Make additional ties at 10 ft. intervals along with suspension risers including the center line as in para 2-71d. Care should be taken to ensure that the center line is run as straight as possible and not wrapped around either group of risers.

(12) To stow the canopy, No. 1 and 2 men hold the deployment bag by the carrying handles. No. 3 man picks up the canopy, a reasonable distance from the top and starts to S-fold the canopy into the deployment bag until the canopy is completely stowed.

(13) Service the 4 reefing line cutters in accordance with instructions outlined in paragraph 2-74 and 2-75 (Fig. 2-210).

a. Remove the cotter pins and tags from all four reefing line cutters, sign name, repack data, and lot No. for cutters on tags. Stow tags and pins into Log Record Pocket on canopy risers.

b. Complete the packing of the parachute in accordance with paragraphs 2-76 thru 2-82.

(14) Preventive maintenance services for the shackle, screw pin type (mod) should be as that prescribed for link assemblies. Preventive maintenance services for the center line should follow those prescribed for the suspension risers except that splicing is not permitted (para. 3-4).

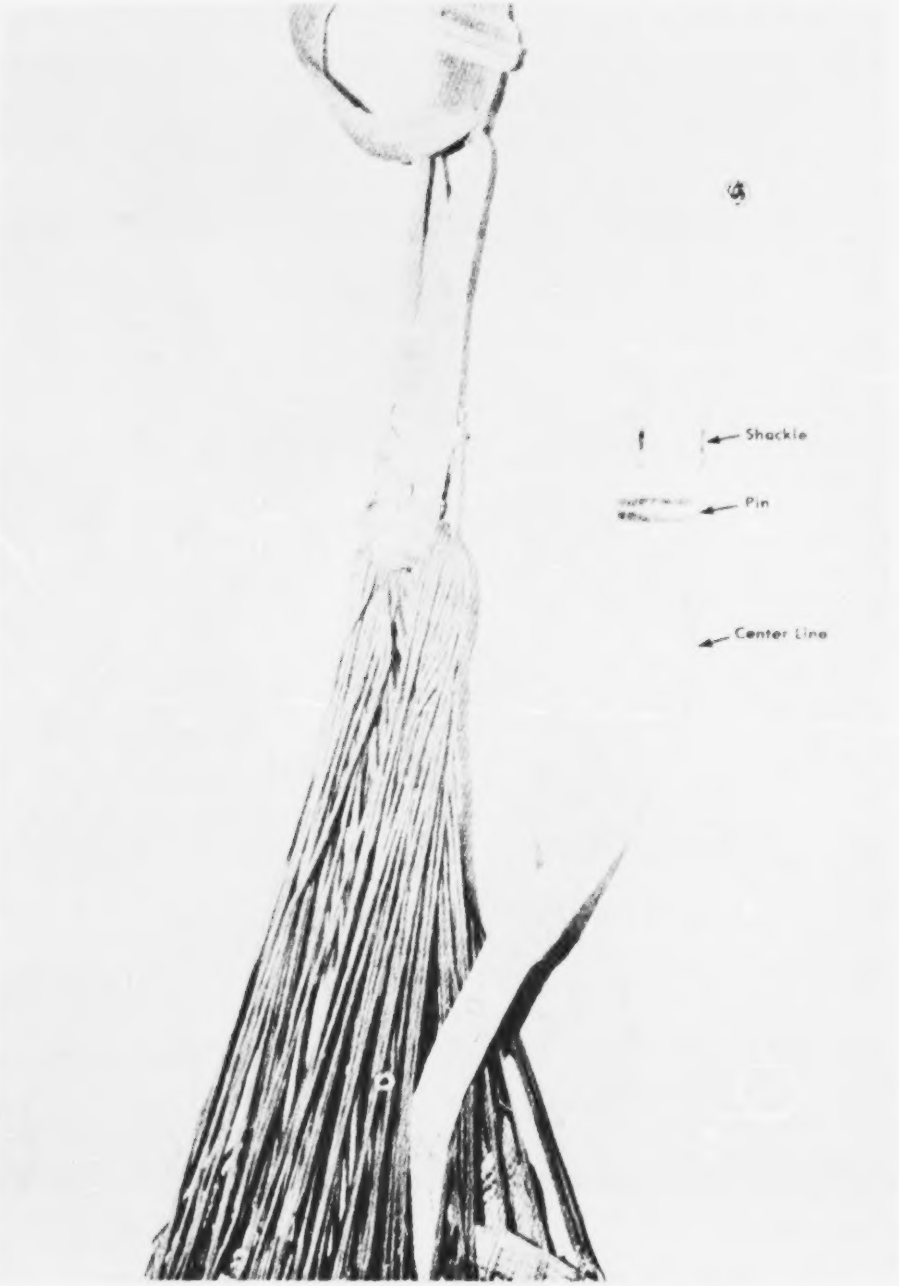

Shackle
Pin
Center Line

Figure 2-203. Center Line Prior to Attachment.

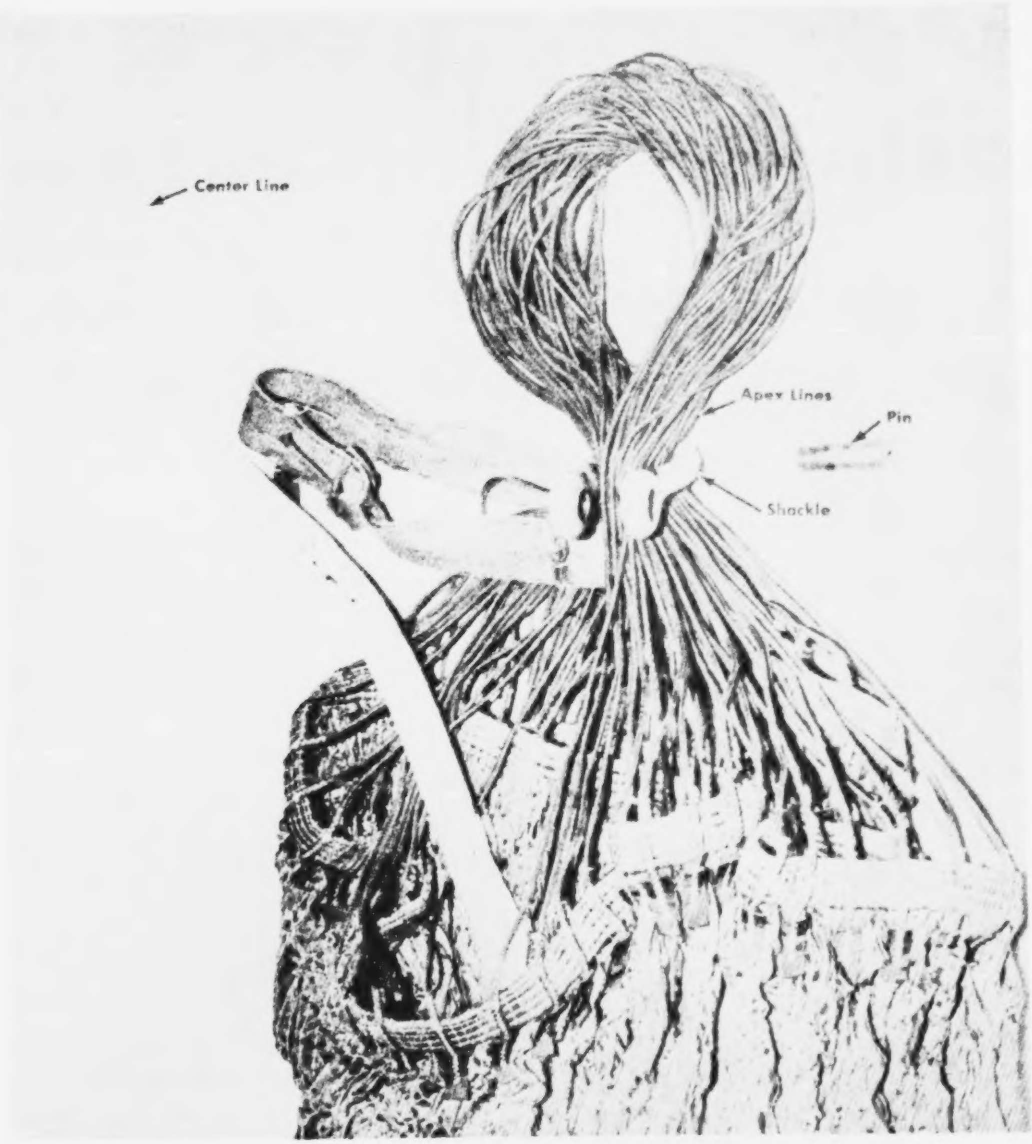

Center Line
Apex Lines
Pin
Shackle

Figure 2-204. Shackle Position in Vent Lines.

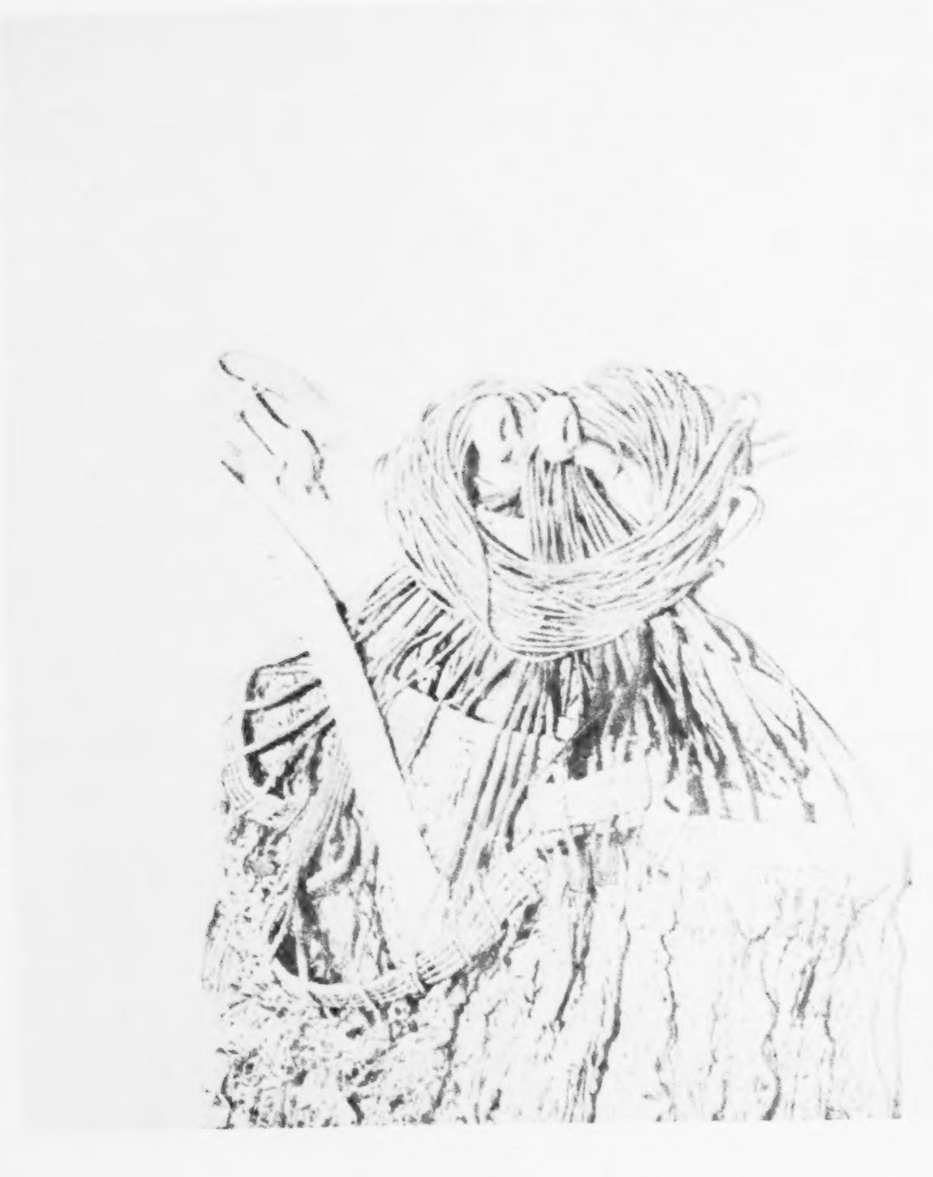


Figure 2-205. Vent Lines Rotated Over Shackle.

Pressure Sensitive Tape

Figure 2-206. Center Line Connected and Taped.

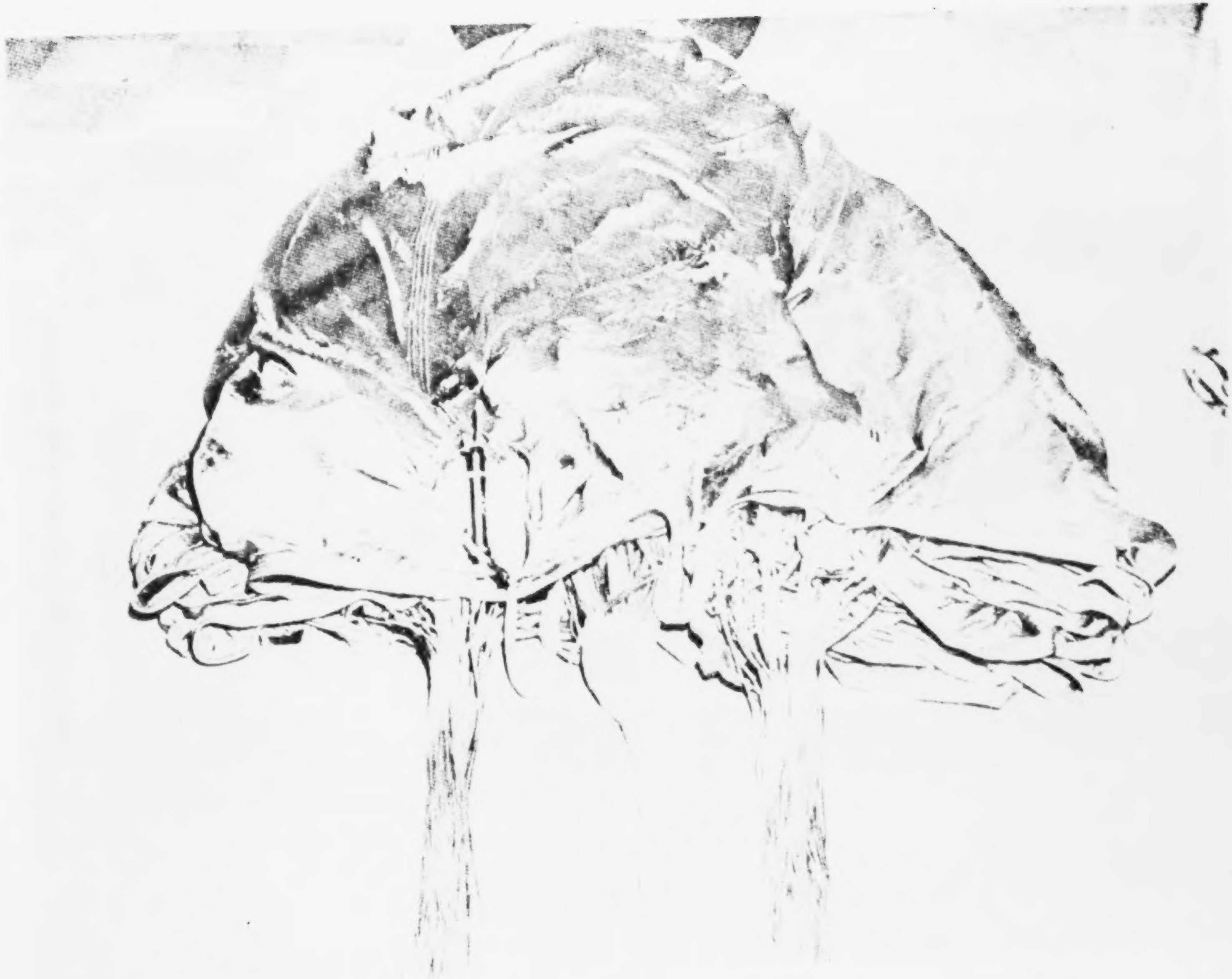


Figure 2-207. Vent Pulled Down to Skirt.

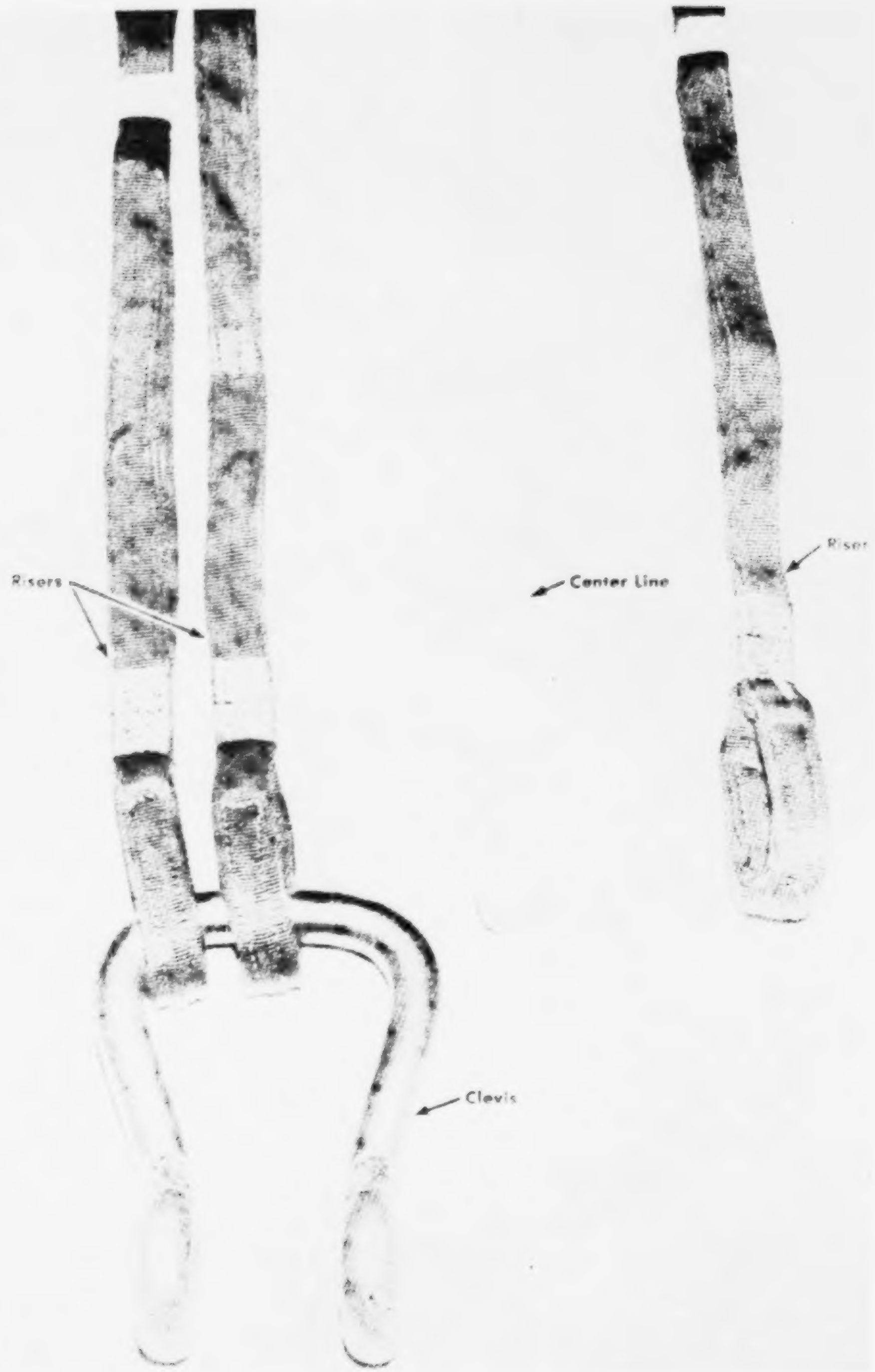

Risers
Center Line
Riser
Clevis

Figure 2-208. Center Lines Prepared.

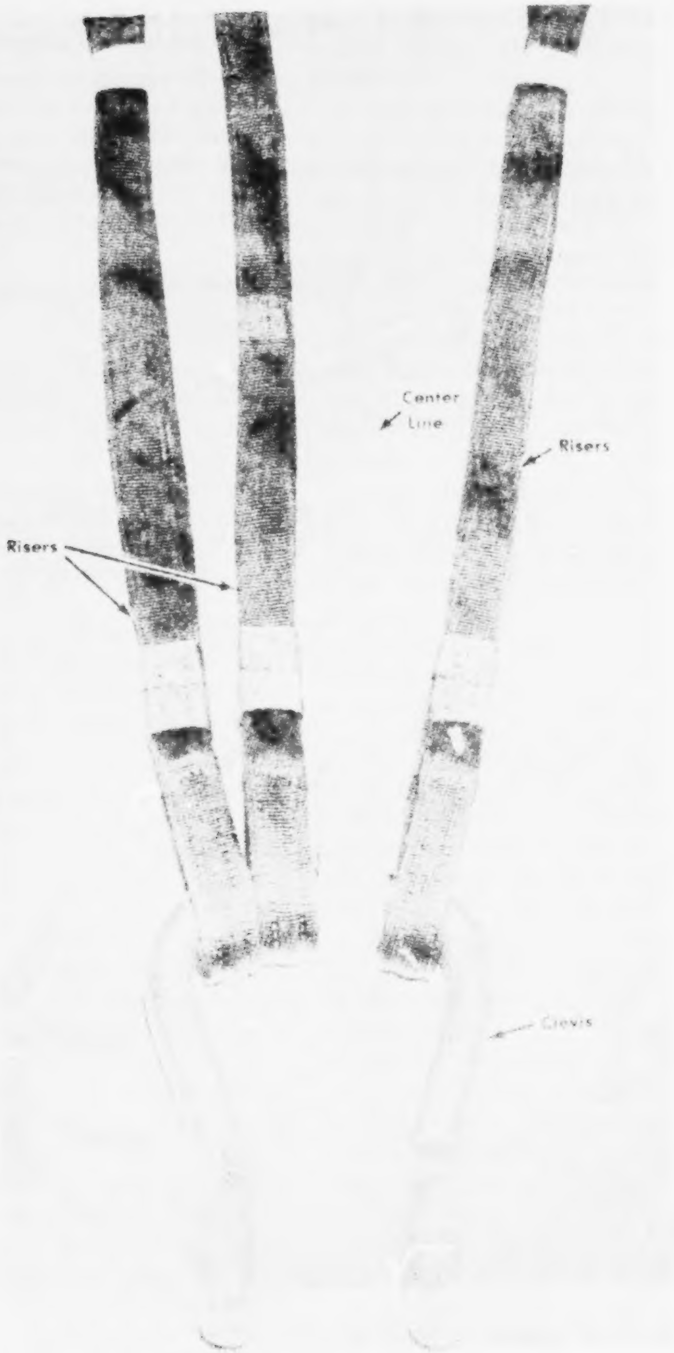

Center Line
Risers
Risers
Clevis

Figure 2-209. Center Line Installed.

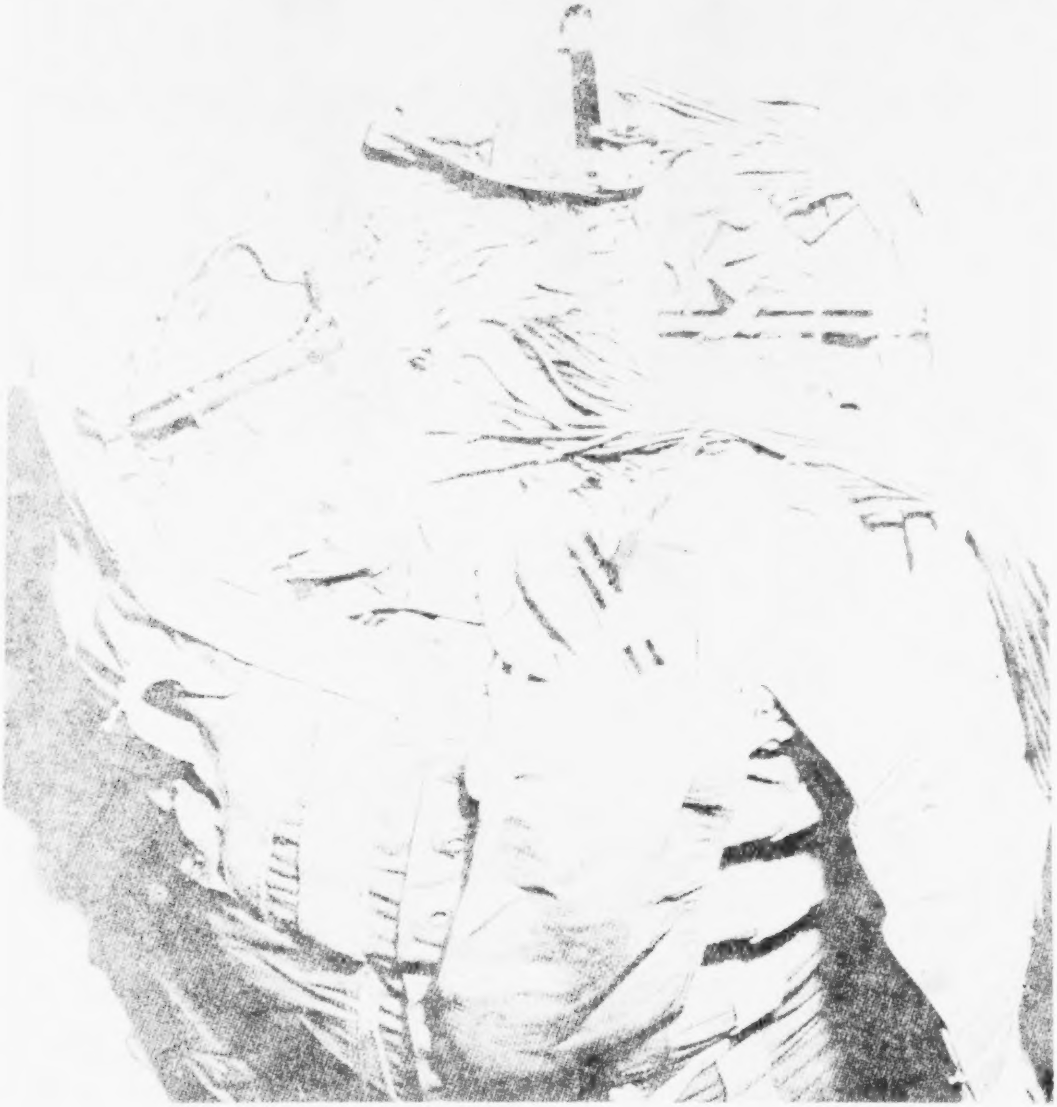


Figure 2-210. Location of M21 Reefing Line Cutters.

2-107. G-11 A/B Conversion.

a. To convert a G-11B Cargo Parachute to a G-11A Cargo Parachute the following is required:

(1) Remove center line from the canopy by detaining the shackle and center line from the canopy vent lines and the center line from the G-11A clevis at the confluence point of the suspension riser. Attach the center line shackle to the loop in the vent lines end of the center line to avoid loss of the shackle.

(2) Pack the canopy in the G-11B Deployment Bag following the packing procedures for the G-11A Cargo Parachute, Section IX instead of the procedures for the G-11B Cargo Parachute, Section XIV. The increase in size of the locking stow loops of the G-11B Deployment Bag made to accommodate the increased bulk of the center line of the G-11B Parachute Canopy will not present any functional problem when packing the G-11A Parachute Canopy in the G-11B Deployment Bag. In packing, observe the following precautions:

(a) Make sure the two (2) M-21 reefing line cutters required for the G-11A are installed in the brackets at lines 1 and 61 of the canopy. Do not use the brackets at lines 31 and 91 which are for use only with the G-11B.

(b) Make sure the reefing line length is 22 foot cut length as required for the G-11A, not the 16-1/2 foot cut lengths as required for the G-11B. Since there will be no cutters installed at lines 31 and 91 and since the reefing rings at these locations have been removed in the G-11B modification, the reefing line at these locations will not be retained to the canopy. This does not adversely affect functioning of the reefing line.

(b) Make sure the reefing line length is 22 foot cut length as required for the G-11A, not the 62 foot cut length as required for the G-11B. Since there will be no cutters installed at lines 31 and 91 and since the reefing rings at these locations have been removed in the G-11B modification, the reefing line at these locations will not be retained to the canopy. This does not adversely affect functioning of the reefing line.

(3) Make entry in the Army Parachute Log Record on the "Jump, Inspection and Repack Data" page that the parachute has been packed as a G-11A, even though the Modification Work Order Compliance Record page of the Log Record may show compliance with MWO-10-1670-215-30-2. For Air Force personnel; make entry on filler pages of AFTO Form 391 to indicate conversion to G-11A. Entry will include date, activity and signature.

b. Conversion of a G-11B Cargo Parachute back to a G-11A Cargo Parachute. To permit use of the modified parachute as both a G-11A or a G-11B, will result in Canopy and Deployment Bag part numbers and stock numbers and the MWO compliance entry (compliance with MWO 10-1670-215-30-2) in the Log Record not being valid for determining whether a particular G-11 type parachute is an A or B configuration. Reliance will have to be made to a greater extent onloadmaster personnel recognizing certain configuration indicators which are readily visible on a packed parachute as follows:

(1) G-11A has the canopy vent lines served and a breakcord attached between the canopy vent lines bridle loop and the breakcord attaching loop of the deployment bag bridle assembly, the G-11B does not.

(2) The G-11A has two (2) M-21 reefing line cutters, accordingly, two type III nylon cord cutter arming cable ties will be present on the outside of the deployment bag, at the top and bottom of the locking stow closed end of the bag. The G-11B has four (4) M-21 reefing line cutters, accordingly, four Type III nylon cutter arming cable ties will be present on the outside of the deployment bag, the two additional ties being at the two sides of the deployment bag at the locking stow closed end of the bag.

(3) The suspension clevis for the G-11A will have only the three suspension riser loops attached to it while the G-11B will have a center line attached to the clevis, in addition to the three suspension riser loops.

(4) The G-11A Log Record will show the lot numbers for two M-21 reefing line cutters and the reefing line cutter tags for two M-21 reefing line cutters will be stowed along with the Log Record in the Log Record Pocket. The G-11B Log Record will show the lot numbers for four cutters and have four cutter tags stowed with it in the Pocket.

c. Some units may find a need for using some form of special marking to assist in readily identifying an A or B G-11 type parachute in its packed state, i.e., distinctive color tape on carrying handle/suspension risers/deployment bag bridle, identification tag, placard, etc.

NOTE

Use of a modified parachute as both an A and B will require careful attention on the part of all personnel to assure that A and B G-11 type configurations are not used for the wrong load applications or mixed.

CHAPTER 3

MAINTENANCE INSTRUCTIONS

Section I. SERVICE UPON RECEIPT OF MATERIAL

3–1. Initial Receipt

When a cargo parachute is initially received from a supply source, a technical/rigger-type inspection will be performed in accordance with paragraph 3-4, using the procedures in table 3-1. This inspection will be accomplished prior to placing any type of cargo parachute into service. Upon completion of the inspection, the parachute will be tagged as prescribed by TB 750-126 and either placed into storage or packed for use in airdrop operations.

3–2. After-use Receipt

After being used for airdrop, a cargo parachute will be inspected for damage and defects in accordance with paragraph 3-4, using the procedures in table 3-1. A used cargo parachute will also be administered a shakeout and aired as prescribed in TM 10-1670-201-23/TO 13C-1-41. A cargo parachute that has been packed and issued for use, but not actually used for airdrop, does not require a shakeout. However, the parachute may need airing if it has been exposed to dampness or other climatic conditions out of a controlled environment. Manual cleaning and drying of a cargo parachute assembly which has been used will be performed using the procedures outlined in TM 10-1670-201-23/TO 13C-1-41.

Section II. PREVENTIVE MAINTENANCE CHECKS AND SERVICES

3–3. General

Each cargo parachute will be inspected at prescribed intervals to insure that the individual cargo parachute is serviceable for use. The types of preventive maintenance inspections normally performed are the technical/rigger-type, routine, and in-storage. In addition, a general observation of a parachute undergoing shakeout will be made to identify any obvious defects. Only the performance of the technical/rigger-type and routine inspections, along with items pertinent to shakeout service, as applied to cargo parachutes, will be detailed in this publication. The in-storage inspection will be performed in accordance with TM 10-1670-201-23/TO 13C-1-41 and TM 743-200-1, as applicable. All defects discovered during an inspection or shakeout and the corrective action taken will be reported and recorded at the earliest possible opportunity using the applicable specifics in TM 38-750, TM 10-1670-201-23/TO 13C-1-41, TB 750-126, and TB 750-99-16.

3–4. Inspection Criteria

Each preventive maintenance inspection performed on a cargo parachute shall be applied by a qualified parachute rigger (MOS 43E) or other individuals as authorized by AR 750-32. The intervals, sequence, and procedures to be used for the technical/rigger-type inspection, routine inspection, and the shakeout service are contained in table 3-1. The work time (man-hours) cited in table 3-1 and defined in Appendix B are average figures furnished for use as an aid in recording unit work-measurement.

NOTE

Any of the various types of inspections applicable to cargo parachutes, as defined in TM 10-1670-201-23/TO 13C-1-41, may be performed at more frequent intervals when prescribed by the unit parachute maintenance officer.

Table 3-1. Preventive Maintenance Checks and Services

KEY: X – Before and after all repairs, and before packing (technical/rigger-type inspection)

Y – After use (shakeout)

Z – Prior to issue (routine inspection)

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z	SECTION I		
			The 12-Foot-Diameter High-Velocity Cargo Parachute Man-hours required: 1.1		
		1	Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening pack. Check parachute inspection data record for pack date.	0.1
	1		Canopy	As canopy is raised, lowered, and suspended during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears; broken lines and webbing.	0.1
1			Fabric materials	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; loose or broken stitching, lines or webbing.	0.5
2			Hardware components	Riser clevis assemblies for corrosion, rough spots, burrs, breaks, cracks, bends; missing tie cord, pin, or safety pin.	0.1
	2		Deployment Bag and Static Line	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.	0.1
3			Fabric materials	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; loose or broken stitching.	0.1
4			Hardware components	Riser clevis assembly for corrosion, rough spots, breaks, cracks, bends; missing tie cord, pin, and safety pin.	0.1

Table 3-1. Preventive Maintenance Checks and Services – Continued

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
			SECTION II		
			G-13 24-Foot-Diameter Cargo Parachute Man-hours required: 1.2		
		1	Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening pack. Check parachute inspection data record for pack date.	0.1
	1		Canopy	As canopy is raised, lowered and suspended during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears; broken lines and webbing.	0.2
1			Fabric materials	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; loose or broken stitching, lines or webbing.	0.5
			Hardware components	Riser clevis assemblies for corrosion, rough spots, burrs, breaks, cracks, bends; missing tie cord, pin, or safety pin.	0.1
	2		Pack, Static Line, and Drogue	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears, and breaks.	0.1
3			Fabric materials	Completeness; dampness, fungus, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; loose or broken stitching.	0.1
4			Hardware components	Clevis assembly for corrosion, rough spots, breaks, cracks, bends; missing tie cord, pin, and safety pin.	0.1
			SECTION III		
			The 26-Foot-Diameter High-Velocity Cargo Parachute Man-hours required: 1.2		
		1	Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening pack. Check parachute inspection data record for pack date.	0.1

Table 3-1. Preventive Maintenance Checks and Services – Continued

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
	1		Canopy	As canopy is raised, lowered, and suspended during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears; broken lines and webbing.	0.2
1			Fabric materials	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; loose or broken stitching, lines, or webbing.	0.5
2			Hardware components	Suspension clevis for corrosion, rough spots, breaks, cracks, bends; missing screw and nut; damage to threads on screw and nut.	0.1
	2		Deployment Bag and Static Line	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.	0.1
3			Fabric materials	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; loose or broken stitching.	0.1
4			Hardware components	Riser clevis assembly for corrosion, rough spots, burrs, breaks, cracks, bends; missing tie cord, pin, or safety pin.	0.1
			SECTION IV		
			G-14 34-Foot-Diameter Cargo Parachute Man-hours required: 1.2		
		1	Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening pack. Check parachute inspection data record for pack date.	0.1
	1		Canopy.	As canopy is raised, lowered, and suspended during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears; broken lines and webbing.	0.2

Table 3-1. Preventive Maintenance Checks and Services – Continued

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
1			Fabric materials	Legibility of data markings; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; loose or broken stitching, lines, or webbing.	0.5
2			Hardware components	Riser clevis assemblies for corrosion, rough spots, burrs, breaks, cracks, bends; missing tie cord, clevis pin, or safety pin.	0.1
	2		Pack, Static Line, and Drogue	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears, and breaks.	0.1
3			Fabric materials	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; loose or broken stitching.	0.1
4			Hardware components	Clevis assembly for corrosion, rough spots, breaks, cracks, bends; missing tie cord, pin, and safety pin.	0.1
			SECTION V		
			The 38-Foot-Diameter RCAT Cargo Parachute Man-hours required: 1.3		
		1	Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening pack. Check pack date. If packing bag has grease, tears, or damage, the parachute will be inspected and repacked before use.	0.1
	1		Canopy	As canopy is raised, suspended, and lowered during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears, and broken lines.	0.2
1			Fabric materials	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; missing, loose or broken stitching and lines.	0.5

Table 3-1. Preventive Maintenance Checks and Services – Continued

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
2			Hardware components	Dee rings for corrosion, rough spots, burrs, breaks, cracks, and bends.	0.1
	2		Pilot Parachute and Bridle Line	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.	0.1
3			Fabric materials	Loose or broken stitching; loose or missing tacking; cuts, holes, tears, burns, breaks; completeness; dampness; foreign material.	0.1
4			Spring in pilot parachute	Improper functioning of spring.	0.1
5			Packing Bag	Oil, grease, acid, foreign material, tears.	0.1
			SECTION VI		
			G-12C and G-12D 64-Foot-Diameter Cargo Parachutes Man-hours required: 3.4		
		1	Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening deployment bag. Check parachute inspection data record for pack date.	0.1
	1		Canopy	As canopy is inflated for shakeout, remove all debris by hand, a suitable broom, or brush. During shakeout, check for dampness, fungus, acid, grease, oil, foreign material, holes, cuts, tears; broken lines and webbing.	0.5
1			Fabric materials	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; missing, loose, or broken stitching, tacking and lines; freedom of lines in radial seams, raveled ends.	2.0
2			Hardware components	Corrosion, rough spots, burrs, breaks, cracks, bends; stripped or damaged threads; loose or missing screws and nuts.	0.1
	2		Deployment Bag (G-12D) or Pack (G-12C)	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.	0.1

Table 3-1. Preventive Maintenance Checks and Services – Continued

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
3			Fabric materials	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; missing, loose or broken stitching.	0.2
			Pilot Parachute (68-Inch-Diameter), Deployment Line (111-Inch-Long), and Static Line		
		1	Pilot parachute packed for use (complete)	Visually check visible parts for serviceability and completeness without opening the pack.	0.1
2	2		Fabric materials	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, loose weaving; loose or broken stitching, tacking, or lines.	0.2
3	3		Hardware Components	Corrosion, rough spots, burrs, breaks, bends; stripped or damaged threads; loose or missing screws, pins, and tie cord.	0.1
			SECTION VII		
			G-11A 100-Foot-Diameter Cargo Parachute Man-hours required: 4.1		
		1	Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening deployment bag. Check parachute inspection data record for pack date and also check inspection data pocket for availability of reefing cutter tags to insure the reefing cutters are armed.	0.1
	1		Canopy	As canopy is inflated for shakeout, remove all debris by hand using a suitable broom or brush. During shakeout, check for dampness, fungus, acid, grease, oil, foreign material, holes, cuts, tears; broken lines, and webbing.	0.8
1			Fabric material	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns,	2.5

Table 3-1. Preventive Maintenance Checks and Services – Continued

Interval and sequence no. X	Y	Z	Item inspected	Procedures (inspect for)	Work time (M/H)
			Fabric material – Continued	cuts, breaks, frays, tears, holes, thin spots, loose weaving; missing, loose or broken stitching, tacking, and lines; freedom of lines in radial seams; raveled ends.	
2			Hardware components	Corrosion, rough spots, burrs, breaks, cracks, bends; stripped or damaged threads; loose or missing screws and reefing line rings.	0.1
	2		Deployment Bag	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.	0.1
3			Fabric material	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; missing, loose, or broken stitching; loose or missing metal grommets.	0.2
	3		Parachute Bridle	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.	0.1
4			Fabric material	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; missing, loose, or broken stitching.	0.1
5			Hardware components	Corrosion, rough spots, burrs, breaks, cracks, bends; stripped or damaged threads; loose or missing screws.	0.1
			SECTION VIII The 15-Foot-Diameter Cargo Extraction Parachute Man-hours required: 1.5		
		1	Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening pack. Check parachute inspection data record for pack date.	0.1
	1		Canopy	As canopy is raised, suspended, and lowered during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears; broken lines and webbing.	0.1
1			Fabric material	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease,	0.5

Table 3-1. Preventive Maintenance Checks and Services — Continued

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
			Fabric material Continued	oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; loose or broken stitching, lines, and webbing.	
2			Hardware components	Corrosion, rough spots, burrs, breaks, cracks, bends; loose or missing screws.	0.1
	2		Deployment Bag	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.	0.1
3			Fabric materials	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; loose or broken stitching.	0.1
4			Hardware components	Corrosion, rough spots, breaks, cracks, bends; loose or missing grommets.	0.1
	3		Extraction Line (60-Foot-Long) and Adapter Web (9 1/2-Inch-Long)	Completeness, dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, or breaks.	0.1
5			Fabric materials	Completeness, dampness, fungus, acid, grease, oil, foreign material, burns, cuts, breaks, frays, tears; loose or broken stitching.	0.1
6			Hardware components	Corrosion, rough spots, breaks, cracks, and bends; unused V-rings and release knives taped.	0.1
7	4		Reefing line (148- and 260-inch-long)	Completeness; dampness, fungus, acid, grease, oil, foreign material, burns, cuts, breaks, frays; loose or broken stitching; loose or missing grommets.	0.1
			36-Inch Long Extraction Parachute Adapter Web		
1	1	1	Webbing Length	Dampness, fungus, acid fungus, acid, grease, oil, dirt, foreign material, cuts, burns, frays, missing keeper, loose or broken stitching.	0.1
2	2	2	Attaching Loops	Damaged or missing buffers, loose or broken tacking.	0.1

Table 3-1. Preventive Maintenance Checks and Services — Continued

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
			SECTION IX The 22-Foot-Diameter Cargo Extraction Parachute Man-hours required: 1.7		
		1	Parachute Packed for Use		0.2
	1		Canopy	Visually check visible parts for serviceability and completeness without opening pack. Check parachute inspection data record for pack date. As canopy is raised, suspended and lowered during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears; broken lines, and webbing.	0.2
			Fabric material	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; loose or broken stitching, lines, or webbing.	0.5
	2		Hardware components	Corrosion, rough spots, burrs, breaks, cracks, bends; loose and missing screws.	0.1
		2	Deployment Bag	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.	
	3		Fabric materials	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes; loose or broken stitching.	0.1
	4		Hardware components	Corrosion, rough spots, breaks, cracks, bends; loose or missing grommets.	0.1
		3	Extraction Line (60-Foot-Long)	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, cuts; loose or broken stitching.	0.1
	5		Fabric materials	Completeness; dampness, fungus, acid, grease, oil, foreign material, burns, cuts, breaks, frays, tears; loose or broken stitching.	0.1

Table 3-1. Preventive Maintenance Checks and Services — Continued

Interval and sequence no. X	Y	Z	Item inspected	Procedures (inspect for)	Work time (M/H)
6			Hardware components	Corrosion, rough spots, breaks, cracks, and bends; unused V-rings and release knives taped.	0.1
7	4		Type IV Link Assembly	Completeness; rust, corrosion, rough spots, breaks, burrs, cracks, and operation.	0.1
8	5		Adapter Web (5-Foot-Long)	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, burns, cuts, frays; loose or broken stitching.	0.1
			SECTION X The 28-Foot-Diameter Cargo Extraction Parachute Man-hours required: 1.7		
		1	Parachute Packed for Use	Visually check visible parts for serviceability and completeness without opening bag. Check parachute inspection data record for packing date.	0.1

Table 3-1. Preventive Maintenance Checks and Services – Continued

nterval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
	1		Canopy	As canopy is raised, suspended, and lowered during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, tears; broken lines or webbing.	0.2
1			Fabric materials	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving; loose or broken stitching, lines, or webbing.	0.5
2			Hardware components	Corrosion, rough spots, burrs, breaks, cracks, bends; loose or missing screws.	0.1
	2		Deployment Bag	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts, and breaks.	
3			Fabric materials	Completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, loose or broken stitching.	0.1
4			Hardware components	Corrosion, rough spots, breaks, cracks, bends; loose or missing grommets.	0.1
	3		Extraction Line (60-Foot-Long)	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, cuts; loose or broken stitching.	0.1
5			Fabric materials	Completeness; dampness, fungus, acid, grease, oil, foreign material, burns, cuts, breaks, frays, tears; loose or broken stitching.	0.1
6			Hardware components	Corrosion, rough spots, breaks, cracks, and bends; unused V-rings and release knives taped.	0.1
7	4		Type IV Link Assembly	Completeness; rust, corrosion, rough spots, breaks, burrs, cracks, and operation.	0.1
8	5		Adapter Web (9-Foot-Long)	Completeness; dampness, fungus, acid, grease, oil, dirt, foreign material, burns, cuts, frays; loose or broken stitching.	0.1

Table 3-1 Preventive Maintenance Checks and Services – Continued

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
			SECTION XI		
			The 3-Foot-Square Pilot Parachute Man-hours required: 0.9		
		1	Pilot Parachute Packed For Use	Visually check visible parts for serviceability and completeness without opening pack.	0.1
1	1		Canopy Fabric material	Legibility of marking data; completeness; dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, loose weaving; missing loose, or broken stitching or lines.	0.1
2	2		Retaining Line		
			Fabric material	Loose or broken stitching; cuts, frays, burns, breaks.	0.1
3	3		Hardware components	Burrs, rough spots, rust, corrosion, breaks, bends, and operation of snap.	0.1
4	4		Bridle Line		
			Fabric material	Loose or broken stitching; cuts, frays, burns, breaks, stains, or foreign material.	0.1
5	5		Pack Assembly		
			Fabric material	Loose or broken stitching; frays, cuts, holes, tears; missing or broken tie cords; broken plywood panel; stains, or foreign material.	0.1
6	6		Hardware components	Loose, bent, or missing grommets; loose, bent, or missing cone; burrs, bends, breaks, cracks, rust or corrosion on locking pin.	0.1
7	7		Deployment Weight		
			Fabric material	Loose or broken stitching; cuts, frays, burns, breaks, snags.	0.1
8	8		Release plug	Burrs, rough spots, rust, corrosion.	0.1

Table 3-1A. Preventive maintenance checks and services

KEY: X - Before and after all repairs, and before packing (technical/rigger-type inspection)

Y - After use (shakeout)

Z - Prior to issue (routine inspection)

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z	SECTION I		
			28-Foot-Diameter Heavy Duty Cargo Extraction Parachute Man-hours required: 0.8		
		1	Parachute packed for use	Visually check visible parts for serviceability and completeness without opening bag. Check parachute inspection data record for pack date.	0.1
	1		Canopy	As canopy is raised, suspended, and lowered during shakeout, check for dampness, fungus, acid, grease, oil, dirt, foreign material, cuts, tears, broken lines or webbing. After shakeout and drying, separate according to whether serviceable or unserviceable, isolating a canopy which may contaminate other items.	0.1
1			Fabric materials	Legibility of marked data, completeness, dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, thin spots, loose weaving, loose or broken stitching, lines or webbing.	0.2

Table 3-1A. Preventive maintenance checks and services (cont.)

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
2			Hardware components	Corrosion, rough spots, burrs, breaks, cracks, bends, loose or missing screws.	0.1
	2		Deployment bag	Completeness, dampness, fungus, acid, grease, oil, dirt, foreign material, holes, cuts and breaks. Separate according to whether serviceable or unserviceable, isolating a deployment bag which may contaminate others.	0.1
3			Fabric materials	Completeness, dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, loose or broken stitching, broken or missing retainer bands.	0.1
4			Hardware components	Corrosion, rough spots, breaks, cracks, bends, loose or missing grommets.	0.1
			SECTION II 106-Inch-Long Adapter Web Man-hours required: 0.2		
1	1	1	Webbing length	Dampness, fungus, acid, grease, oil, dirt, foreign material, cuts, burns, frays, missing keepers, loose or broken stitching.	0.1
2	2	2	Attaching loops	Damaged or missing buffers, loose or broken tacking.	0.1

TABLE 3-1A Preventive maintenance checks and services (cont.)

Interval and sequence no.			Item inspected	Procedures (inspect for)	Work time (M/H)
X	Y	Z			
			SECTION III Items used for LAPES with heavy duty extraction parachute extraction line bag assembly man-hours required: 0.2		
1	1		Fabric materials	Completeness, dampness, fungus, dirt, acid, grease, oil, foreign material, rips, burns, cuts, breaks, frays, tears, holes, loose or broken stitching.	0.1
2	2		Hardware components Extraction line deployment bag bridle man- hours required: 0.1	Rough spots, loose or missing grommets.	
1	1		Bridle webbing	Dampness, fungus, acid, grease, oil, dirt, foreign material, cuts, burns, frays, broken or loose stitching.	0.1
			Parachute connector link Man-hours required: 0.1		
1	1		Link assembly	Burrs, rough spots, rust, corrosion, stripped threads, missing screws.	0.1
			Drogue line Man-hours required: 0.1		
1	1		Drogue Line Webbing	Dampness, fungus, acid, grease, oil, dirt, foreign material, cuts, burns, frays, broken or loose stitching.	0.1

Section III. GENERAL MAINTENANCE INSTRUCTIONS

3–5. Maintenance Limitations

Only those maintenance functions specified in the Maintenance Allocation Chart (Appendix B) are authorized to be performed on cargo parachutes. Repair cost limitations to preclude uneconomical repair of cargo parachutes shall conform to the requirements of AR 750-1 and TB 750-99-16. Other maintenance limitations which may be imposed on an individual cargo parachute assembly are contained within the applicable cargo parachute maintenance specifics c this chapter.

3–6. Sewing Specifics

All sewing which is authorized to be performed on the components of a cargo parachute will be made using the specifics in tables 3-2 and 3-3. Table 3-2 specifies the sewing machines prescribed for accomplishing sewing functions on a cargo parachute and also provides a code symbol for each type of machine which is further used in table 3-3. Table 3-3 specifies the type sewing machine to be used for sewing a particular item, the stitch range to be used when sewing, and the type thread with which the sewing will be made.

Table 3-2. Sewing Machine Code Symbols

Code symbol	Sewing machine
LD	SEWING MACHINE, INDUSTRIAL (Light duty): General sewing, power-driven, lockstitch, single needle, flat bed, w/rigid table stand, 10- to 13-inches depth of throat.
MD	SEWING MACHINE, INDUSTRIAL (Medium duty): General sewing, power-driven, lockstitch, single needle, flat bed, w/rigid stand.
HD	SEWING MACHINE, INDUSTRIAL (Heavy duty): General sewing, power-driven, lockstitch, single needle, flat bed, w/rigid table stand.
VHD	SEWING MACHINE, INDUSTRIAL (Very heavy duty): Heavy leather or webbing sewing, power-driven, lockstitch, single needle, 12-inches depth of throat, cylinder bed, nonadjustable pedestal mounted.
DN	SEWING MACHINE, INDUSTRIAL (Darning, light-to-medium): Darning, power-driven, lockstitch, single needle, 6 7/8-inches depth of throat, cylinder bed, w/rigid table stand.
ZZ	SEWING MACHINE, INDUSTRIAL (Medium duty zigzag): Double-throw zigzag sewing for rope tacking, power-driven, lockstitch, single needle, 10 7/8-inches depth of throat, flat bed, w/rigid table stand.

Table 3-3. Stitching Specifications

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
1. *The 12-Foot-Diameter High-Velocity Cargo Parachute.*			
Canopy			
Gore section	LD DN	7-11 Darn	E E
Skirt reinforcement tape (lower lateral band)	LD	7-11	E

Table 3-3. Stitching Specifications – Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
Radial tape	LD	7-11	E
Suspension line	ZZ	7-11	E
Bridle loop	HD	5-8	6
Suspension line attaching loop	LD	7-11	E
	ZZ	7-11	E
Vent line	ZZ	7-11	E
Pocket band	ZZ	7-11	E
Riser	HD	5-8	3
Parachute inspection data pocket	MD	7-11	E
	ZZ	7-11	E
Tie cord loop	ZZ	7-11	E
Tie cord	ZZ	7-11	E
Vent reinforcement tape (upper lateral band)	LD	7-11	E
Vertical tape	LD	7-11	E
Deployment Bag			
Attaching loop	LD	7-11	E
Main strap	LD	7-11	E
Retaining stow loop strap	LD	7-11	E
Tie loop	LD	7-11	E
Panels and flaps	LD	7-11	E
	DN	Darn	E
Static Line			
Line webbing	ZZ	7-11	E
2. *The G-13 24-Foot-Diameter Cargo Parachute.*			
Canopy			
Bridle line	ZZ	7-11	E
Bridle-to-canopy attaching loop	LD	7-11	E
Crown panel (center and sides)	LD	7-11	E
	DN	Darn	E
Gore seam reinforcement	LD	7-11	E
Gore panel	LD	7-11	E
	DN	Darn	E
Panel reinforcement	ZZ	7-11	E
Rat line	ZZ	7-11	E
Reinforcing webbing	LD	7-11	E
Skirt panel	LD or ZZ	7-11	E
Skirt hesitator	LD	7-11	E
Suspension line	ZZ	7-11	E
Riser assembly	HD	5-8	6
	LD	7-11	E
Parachute inspection data pocket	LD	7-11	E

Table 3-3. Stitching Specifications – Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
Tie cord loop	ZZ	7-11	E
Tie cord	ZZ	7-11	E
Spreader bar	LD	7-11	E
	HD	5-8	6
Pack			
Edge binding	MD	7-11	E
Pack closing loop	MD	7-11	E
Pack tiedown strap loop	HD	5-8	3
Panels and flaps	MD	7-11	E
	DN	Darn	E
Static line retaining strap	MD	7-11	E
Static Line			
Static line webbing length	MD	7-11	E
Breakcord attaching loop	HD	5-8	6
Clevis attaching loop	HD	5-8	6
Pack attaching loop	HD	7-11	3
Static Line Parachute Drogue			
Body and vanes	DN	Darn	E
Attaching loop	ZZ	7-11	E
Reinforcing tape	LD	7-11	E
3. *The 26-Foot-Diameter High-Velocity Cargo Parachute.*			
Canopy			
Bridle loop	HD	5-8	6
Vent line	ZZ	7-11	E
Gore section	LD	7-11	E
	DN	Darn	E
Skirt reinforcement tape (lower lateral band)	LD	7-11	E
Radial tape	LD	7-11	E
Suspension line	ZZ	7-11	E
Suspension line attaching loop	LD	7-11	E
Pocket band	ZZ	7-11	E
Riser			
Buffer	HD	5-8	3
Riser webbing	HD	5-8	3
Spreader	HD	5-8	3
Suspension line attaching loop	MD	7-11	E

Table 3-3. Stitching Specifications – Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
Vent reinforcement tape (upper lateral band)	LD	7-11	E
Vertical tape	LD	7-11	E
Deployment Bag			
Attaching loop	LD	7-11	E
Upper end reinforcement	LD	7-11	E
Main strap	LD	7-11	E
Panels and flaps	LD	7-11	E
	DN	Darn	E
Static line stow loop	LD	7-11	E
Stow loop retaining strap	LD	7-11	E
Protector flap tie loop	LD	7-11	E
Side main strap tie loop	LD	7-11	E
Static Line	ZZ	7-11	E
4. *The G-14 34-Foot-Diameter Cargo Parachute.*			
Canopy			
Bridle loop	HD	5-8	6
Vent line	ZZ	7-11	E
Vent reinforcement (upper lateral band)	LD	7-11	E
Panel (upper and lower)	LD	7-11	E
	DN	Darn	E
Radial tape	LD	7-11	E
Annular ring reinforcement (upper and lower)	LD	7-11	E
Skirt reinforcement (lower lateral band)	LD	7-11	E
Suspension line reinforcing loop (V-tab)	ZZ	7-11	E
	LD	7-11	E
Suspension line reinforcement	MD	5-8	3
Suspension line	ZZ	7-11	E
Riser assembly	HD	5-8	3
Spreader	HD	5-8	3
Riser strap buffer	HD	5-8	3
Parachute inspection data pocket	LD	7-11	E
Tie cord loop	ZZ	7-11	E
Tie cord	ZZ	7-11	E
Pack			
Edge binding	MD	7-11	E
Pack closing loop	MD	7-11	E
Tiedown strap loop	HD	5-8	3

Table 3-3. Stitching Specifications – Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
Panels and flaps	DN	Darn	E
Static line retaining loop	MD	7-11	E
Static Line			
Static line webbing length	MD	7-11	E
Breakcord attaching loop	HD	5-8	6
Clevis attaching loop	HD	5-8	6
Pack attaching loop	HD	5-8	3
Static Line Parachute Drogue			
Body and vanes	DN	Darn	E
Reinforcing tape	LD	7-11	E
Attaching loop	ZZ	7-11	E
5. *The 38-Foot-Diameter RCAT Cargo Parachute.*			
Bridle line	ZZ	7-11	E
Canopy			
Gore section	LD	7-11	E
	DN	Darn	E
Skirt reinforcement (lower lateral band)	LD	7-11	E
Radial seam	LD	7-11	E
Canopy line	ZZ	7-11	E
Skirt hesitator band	ZZ	7-11	E
	LD	7-11	E
Butterfly tab	ZZ	7-11	E
	LD	7-11	E
Suspension line	ZZ	7-11	E
Vent line	ZZ	7-11	E
Vent Reinforcement (upper lateral band)	LD	7-11	E
Suspension line strap (V-tab)	ZZ	7-11	E
	LD	7-11	E
Pilot Parachute	LD	7-11	E
	DN	Darn	E
6. *The G-12C and G-12D 64-Foot-Diameter Cargo Parachutes.*			
Canopy			
Gore section	LD	7-11	E
	DN	Darn	E
Skirt reinforcement (lower lateral band)	LD	7-11	E
Vent reinforcement (upper lateral band)	LD	7-11	E

Table 3-3. Stitching Specifications – Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
Radial seam	LD	7-11	E
Canopy line	ZZ	7-11	FF
Suspension line	ZZ	7-11	FF
Vent line	ZZ	7-11	FF
Bridle loop	HD	5-8	3
Hesitator tab (G-12C)	MD	7-11	FF
	ZZ	7-11	FF
Parachute inspection data pocket	LD	7-11	E
Tie cord loop	ZZ	7-11	E
Tie cord	ZZ	7-11	E
Pocket band	ZZ	7-11	FF
Radial seam reinforcement tape	ZZ	7-11	FF
Riser	HD	5-8	6
Clevis loop buffer	LD	7-11	E
Skirt hesitator (G-12C)	MD	7-11	FF
Suspension line reinforcement (V-tab)	LD	7-11	FF
	ZZ	7-11	FF
Deployment Bag (G-12D)			
Bridle breakcord attaching loop buffer	HD	5-8	3
Bag closing loop	HD	5-8	3
Bridle strap	HD	5-8	3
Edge binding	ZZ	7-11	E
Horizontal strap	HD	5-8	3
Panels, flaps, and cover	MD	7-11	FF
	DN	Darn	E
Locking stow loop	HD	5-8	3
Locking stow slot reinforcement	HD	5-8	3
Suspension line stow loop	HD	5-8	3
Suspension line stow strap	HD	5-8	3
Suspension line stow loop reinforcement	HD	5-8	3
Cluster tie webbing	HD	5-8	3
Riser extension tie loop	HD	5-8	3
Riser extension tie strap	HD	5-8	3
Riser extension cover end reinforcement	MD	7-11	FF
Vent line hole reinforcement	HD	5-8	3
Deployment Line (111-Inch-Long)	HD	5-8	3
Reinforcement straps	VHD	5-8	5

Table 3-3. Stitching Specifications – Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
Pack (G-12C)			
Panels and flaps	HD	5-8	3
	DN	Darn	E
Reinforcements and loops	HD	5-8	3
Pilot Parachute (68-Inch-Diameter)			
Canopy panel	LD	7-11	E
	DN	Darn	E
Crown inside reinforcement tape	LD	7-11	E
Canopy reinforcing tape	LD	7-11	E
Crown attaching loop	LD	7-11	E
Skirt reinforcement webbing	LD	7-11	E
Suspension line reinforcing tape	ZZ	7-11	FF
	LD	7-11	E
Suspension line	ZZ	7-11	E
Static Line			
Edge binding	LD	7-11	E
Bag panel	DN	Darn	E
Bridle line	ZZ	7-11	E
Bridle webbing	VHD	5-8	5
Tiedown loop	LD	7-11	E
7. *The G-11A 100-Foot-Diameter Cargo Parachute.*			
Canopy			
Gore panel	LD	7-11	E
	DN	Darn	E
Vent and skirt bands (upper and lower lateral bands)	MD	7-11	E
Canopy line	ZZ	7-11	E
Suspension line	ZZ	7-11	E
Radial line	ZZ	7-11	E
Vent line	ZZ	7-11	E
Attaching loop (bridle loop)	HD	5-8	3
Parachute inspection data pocket	LD	7-11	E
Tie cord loop	ZZ	7-11	E
Tie cord	ZZ	7-11	E
Pocket band	ZZ	7-11	E
Cutter bracket panel reinforcement	LD	7-11	E
Radial line reinforcement tape	ZZ	7-11	E

Table 3-3. Stitching Specifications – Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
Radial seam	LD	7-11	E
Reefing ring retainer	ZZ	7-11	E
Suspension riser	VHD	5-8	6
V-tab	LD	7-11	E
	ZZ	7-11	E
Deployment Bag Bridle	VHD	5-8	6
Deployment Bag			
Panels and flaps			
Bag body	MD	7-11	E
	VHD	5-8	6
	DN	Darn	E
	HD	5-8	3
Bag cover	MD	7-11	E
	DN	Darn	E
Suspension line protector flap	MD	7-11	E
	DN	Darn	E
Edge binding	MD	7-11	E
Locking stow loop	VHD	5-8	6
Locking loop protector sleeve	VHD	5-8	6
8. *The 15-Foot-Diameter Cargo Extraction Parachute.*			
Canopy			
Gore panel	LD	7-11	E
	DN	Darn	E
Panel edge reinforcement	LD	7-11	E
Bridle centering line	ZZ	7-11	E
Suspension line	ZZ	7-11	E
Vent line	ZZ	7-11	E
Attachment loop (bridle loop)	HD	5-8	3
Suspension line attaching loop	MD	7-11	E
Pocket band	LD	7-11	E
Lateral band (upper and lower)	LD	7-11	E
Radial webbing	LD	7-11	E
	ZZ	7-11	FF
Deployment Bag	MD	5-8	FF
Retainer band keeper	VHD	5-8	3
V-ring keeper	VHD	5-8	3
Bent V-ring keeper	ZZ	7-11	FF
Bag retaining line	LD	7-11	FF
Retaining line buffer			

Table 3-3. Stitching Specifications — Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	[illegible] size
Bridle loop strap	MD	5-8	FF
	HD	5-8	3
Bag closing loop	HD	7-11	FF
	HD	5-8	3
Parachute inspection data pocket	MD	7-11	E
Tie cord loop	ZZ	7-11	E
Tie cord	ZZ	7-11	E
End slot reinforcement	MD	5-8	FF
Retainer band keeper reinforcement	MD	5-8	FF
Tie loop reinforcement	MD	5-8	FF
Safety cord	ZZ	7-11	FF
Tie loop	MD	5-8	FF
Edge binding	MD	5-8	FF
Suspension line	DN	Darn	E
stowage flap	MD	5-8	FF
Stowage flap edge reinforcement	MD	5-8	FF
Main strap	MD	5-8	FF
Bag panel	DN	Darn	E
Extraction Line (60-Foot-Long)			
Line webbing	VHD	5-8	6
Connector link attaching loop buffer	MD	7-11	E
Load attaching loop buffer	MD	7-11	E
Adapter Web (9 1/2-Inch-Long)			
Web body	VHD	7-11	6
End loop buffer	LD	7-11	E
Buffer (3 1/2-inch-long)	LD	7-11	E
Reefing Line (148- and 260-Inch-Long)			
Line body	ZZ	7-11	E
Retaining loop	ZZ	7-11	E
Adapter Web (36 Inches Long)			
Long Buffer	LD	7-11	E
Short Buffer	LD	7-11	E
Webbing Length	HD	4-6	5
9. *The 22-Foot-Diameter Cargo Extraction Parachute.*			
Canopy			
Gore panel	LD	7-11	E

Table 3-3. Stitching Specifications — Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
	DN	Darn	E
Panel edge reinforcement	LD	7-11	E
Bridle centering line	ZZ	7-11	E
Suspension line	ZZ	7-11	E
Vent line	ZZ	7-11	E
Attachment loop (bridle loop)	HD	7-11	3
Suspension line attaching loop	ZZ	7-11	FF
	LD	7-11	E
Pocket band	LD	7-11	E
Vent reinforcement	HD	7-11	3
(upper lateral band)	MD	7-11	3
Skirt reinforcement	HD	7-11	3
(lower lateral band)	MD	7-11	E
Radial tape	LD	7-11	E
Deployment Bag			
Retainer band keeper	MD	7-11	FF
V-ring keeper	HD	5-8	3
Bent V-ring keeper	HD	5-8	3
Bent V-ring side support web	HD	5-8	3
Bag retaining line	ZZ	7-11	FF
Bridle loop strap	MD	7-11	FF
	HD	7-11	3
Bag closing loop	HD	7-11	FF
Parachute inspection data pocket	MD	7-11	E
Tie cord loop	ZZ	7-11	E
Tie cord	ZZ	7-11	E
End slot reinforcement	MD	7-11	FF
Retainer band keeper reinforcement	MD	7-11	FF
Tie loop reinforcement	MD	7-11	FF
Safety cord	ZZ	7-11	E
Tie loop	MD	7-11	FF
Bag end reinforcement	MD	7-11	FF
Main strap	MD	7-11	FF
Bag panels	DN	Darn	E
	LD	7-11	E
Suspension line stowage	DN	Darn	E
flap	MD	5-8	FF
Stowage flap edge reinforcement	MD	7-11	FF
Edge binding	MD	7-11	FF

Table 3-3. Stitching Specifications — Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
Extraction Line (60-Foot-Long)	HD	5-8	5
Line webbing	MD	7-11	E
End loop buffer	HD	5-8	3
Sliding keeper			
Adapter Web (5-Foot-Long)	HD	5-8	5
Web body	HD	5-8	5
Long buffer	HD	5-8	5
Sliding keeper			

Table 3-3. ***Stitching Specifications — Continued***

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
10. *The 28-Foot-Diameter Cargo Extraction Parachute*			
Canopy			
Canopy section	LD	7-11	E
Suspension line keeper	LD	7-11	E
Bridle centering line	ZZ	7-11	E
Suspension line	ZZ	7-11	FF
Vent line	ZZ	7-11	FF
Vent loop (bridle loop)	HD LD	5-8 7-11	3 E
Suspension line attaching loop	ZZ	7-11	FF
Pocket band	MD	7-11	FF
Vent reinforcement (upper lateral band)	LD HD	7-11 7-11	E FF
Skirt reinforcement (lower lateral band)	HD LD	7-11 7-11	E FF
Radial tape	LD	7-11	E
Vertical tape	LD	7-11	E
Edge reinforcement	LD	7-11	E
Deployment Bag			
Retainer band keeper	MD	7-11	FF
V-ring keeper	HD	5-8	3
Bent V-ring keeper	HD	5-8	3
Bent V-ring side support web	HD	5-8	3
Bag retaining line	ZZ	7-1	FF
Bridle loop strap	MD HD	7-1 7-11	FF 3
Bag closing loop	HD	7-11	FF
Parachute inspection data pocket	MD	7-11	E
Tie cord loop	ZZ	7-11	E
Tie cord	ZZ	7-11	E
End slot reinforcement	MD	7-11	FF
Retainer band keeper reinforcement	MD	7-11	FF
Tie loop reinforcement	MD	7-11	FF
Safety cord	ZZ	7-11	E
Tie loop	MD	7-11	FF
Bag end reinforcement	MD	7-11	FF
Main strap	MD	7-11	FF
Bag panels	DN LD	Darn 7-11	E E
Suspension line stowage flap	DN MD	Darn 5-8	E FF

Table 3-3. Stitching Specifications – Continued

Component	Recommended sewing machine (code symbol)	Stitches per inch	Nylon thread size
Stowage flap edge reinforcement	MD	7-11	FF
Edge binding	MD	7-11	FF
Extraction Line (60-Foot-Long)			
Line webbing	HD	5-8	5
End loop buffer	MD	7-11	E
Sliding keeper	HD	5-8	5
Concentric loops	HD	5-8	5
Adapter Web (9-Foot-Long)			
Web body	HD	5-8	5
Long buffer	HD	5-8	5
Sliding keeper	HD	5-8	5
11. *The 3-Foot-Square Pilot Parachute.*			
Deployment Weight			
Bridle Line			
Line webbing	LD	7-11	E
Pack locking loop	ZZ	7-11	E
Retaining Line (235 1/2-Inch-Long)			
Line webbing	ZZ	7-11	E
	LD	7-11	E
Buffer	LD	7-11	E
Pack			
Panels and pocket	MD	7-11	E
	DN	Darn	E
Edge binding	MD	7-11	E
Tiedown cord	ZZ	7-11	E
Pack closing loop	ZZ	7-11	E
Canopy			
Canopy panel	LD	7-11	E
	DN	Darn	E
Suspension line	LD	7-11	E
Deployment Weight	MD	5-8	3

Table 3-3. Stitching Specifications.

Component	Recommended sewing machine (code symbol)	Stitches per inch	Thread size
The Heavy Duty 28-Foot-Diameter Cargo Extraction Parachute			
Canopy	LD	7-11	E
	DN	Darn	E
Bridle centering line	ZZ	7-11	E
Suspension line	MD	5-8	3
Vent line	ZZ	7-11	FF
Vent loop	HD	5-8	3
Suspension Line Attaching Loop	MD	7-11	FF
Pocket band	MD	7-11	FF
Radial tape	LD	7-11	E
Section reinforcement band	LD	7-11	E
Skirt reinforcement band (Lower lateral band)	LD	7-11	E
Vent reinforcement band (Upper lateral band)	MD	5-8	3
Vertical tape	ZZ	7-11	E
Deployment Bag			
Bag Bridle Strap	MD	7-11	FF
Retainer band keeper	MD	7-11	FF
V-ring keeper	HD	7-11	FF
Bent V-ring keeper	HD	7-11	3
Bag closing loop	HD	7-11	3
Parachute inspection data			
Pocket	MD	7-11	FF
End slot reinforcement	MD	7-11	FF
Retainer band keeper reinforcement	MD	7-11	FF
Tie loop reinforcement	MD	7-11	FF
Tie loop	MD	7-11	FF
Edge binding	MD	7-11	FF
Main strap	MD	7-11	E
Panels and Flaps	MD	7-11	FF
Stowage flap edge reinforcement	DN	Darn	FF
Safety line	ZZ	7-11	FF
The 106-Inch-Long Adapter			
Short buffer	HD	4-6	6
Fixed keeper	HD	4-6	6
Sliding keeper	HD	4-6	6
Webbing length	HD	4-6	6
The Extration Line Bag Assembly			
Panel	MD	5-7	3
	MD	5-7	E
	ZZ	7-11	3
	DN	Darn	E
Extraction Line Deployment			
Bag bridle	HD	5-7	5
Drogue line	HD	5-7	6

Section IV. THE 12-FOOT-DIAMETER HIGH-VELOCITY CARGO PARACHUTE

3–7. The Parachute Canopy

a. Inspection. Inspect a 12-foot-diameter high-velocity cargo parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 12-foot-diameter high-velocity cargo parachute canopy by cleaning and drying the canopy and associated canopy components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 12-foot-diameter high-velocity cargo parachute canopy which requires removal of stitching or an original part by cutting, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Riser clevis.* Repair a riser clevis that is used on a riser of the 12-foot-diameter high-velocity cargo parachute canopy using the following procedures, as applicable.

(a) Replacing a clevis pin retaining cord. Replace a damaged or missing riser clevis pin retaining cord by fabricating as follows:

1 If applicable, cut and remove the original clevis pin retaining cord from the riser clevis body, the clevis pin, and the safety pin.

2 Cut a 16-inch length of type IA nylon cord or an equivalent type cord and sear the ends.

3 Pass one-half of the cord length around the riser clevis body, join the cord ends, and make a square knot snug against the clevis body (fig. 3-1).

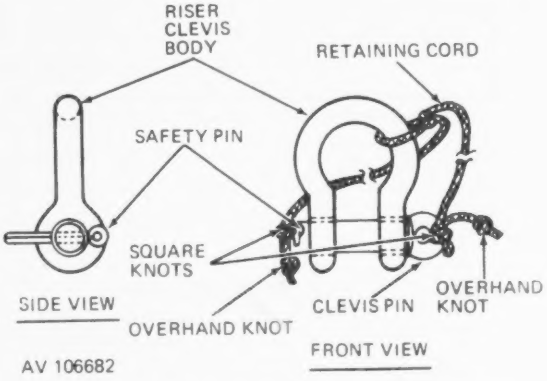


Figure 3–1. A riser clevis and associated components.

4 Pass one tie running end through the top of the clevis pin and secure the tie end snug against the clevis pin top with a square knot, leaving a 3/8-inch-long running end. Make an overhand knot in the remaining running end at a point within 3/16 inch of the square knot.

5 Secure the opposite cord running end to the top of the safety pin using the procedure in *4* above.

(b) Replacing a riser clevis safety pin. Replace a damaged or missing riser clevis safety pin by fabricating as follows:

1 If applicable, remove the original safety pin from the riser clevis by untieing the retaining cord running end which secures the pin to the clevis.

2 Cut a 5-inch length of 0.080-inch-diameter corrosion resisting steel wire.

3 Using the cut wire length, form a 3 1/8-inch-long riser clevis safety pin according to the details shown in figure 3-2.

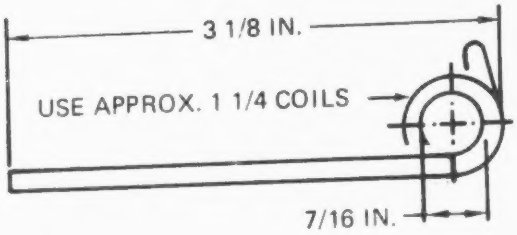


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Figure 3–2. Riser clevis safety pin construction details, typical.

4 Attach the formed safety pin to the riser clevis using the original clevis pin retaining cord running end and the procedures in *(a) 4* above.

(c) Replacing a riser clevis. Replace an unserviceable or missing riser clevis with a serviceable item from stock.

(2) Gore section.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear in a gore section which does not exceed 3/4 inch in length or diameter as prescribed in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. There is no limit to the number of darns which may be made on a gore section of the 12-foot-diameter high-velocity cargo parachute canopy.

(c) Patching. There is no limit as to the size or number of patches that may be made on a gore section of the 12-foot-diameter high-velocity cargo parachute canopy. Patch a hole or tear in a gore section that exceeds 3/4 inch in length or diameter using either the pressure-sensitive (iron-on) patching method outlined in TM 10-1670-201-23/TO 13C-1-41 or the stitching method that is prescribed as follows:

NOTE

The gore sections of the 12-foot-diameter high-velocity cargo parachute canopy may be patched by two methods. One method is by use of cotton balloon coated cloth which is a pressure-sensitive (iron-on) patch material that does not require stitching. The second method of patching requires stitching and the patch material will be of type III 3.8-ounce cotton muslin cloth.

1 Cut a piece of type III, 3.8-ounce cotton muslin cloth 2 inches wider and 2 inches longer than the damaged area.

2 Center the patch material over the gore section damaged area on the inside of the canopy.

3 Beginning at a point 1/4 inch in from the raw edge of the patch material, secure the patch to the applicable gore section by stitching three rows of stitching 1/4 inch apart around the edges of the patch. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(d) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(e) Replacement.. A gore section which is damaged beyond repair shall be replaced by fabricating as follows:

1 Gore section 1.

(a) Place the canopy on a repair table with the damaged gore section facing up.

(b) Cut a piece of type III, 3.8-ounce cotton muslin cloth 2 1/2 inches longer and 1 1/2 inches wider than the original gore section.

(c) Place the cut material over the damaged area and using a suitable marking device, trace the outline of the original gore section, including the width of the radial tapes on each side of the damaged area and the width of the skirt reinforcement tape (lower lateral band) at the bottom. Allow the material to extend 1 inch beyond the original gore section upper edge, 1 1/2 inches below the lower skirt reinforcement tape (lower lateral band), and 3/4 inch beyond the outside edge of each of the radial tapes. Trim excess material, as required.

(d) On the upper end of the cut material, make a double 1/2-inch-wide foldunder. Secure the foldunder with a single row of stitching sewn through the foldunder center across the width of the material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(e) Cut and remove the original stitching which secures the pocket band ends to the skirt reinforcement tape (lower lateral band) in the original gore section area. Fold the pocket band loose ends away from the repair area.

(f) Invert the canopy to the inside and aline the upper edge of the foldunder made in (d) above with the upper edge of the original gore section. Allow each side of the replacement gore section material to extend 3/4 inch beyond the outside edges of the original gore section radial tapes. Insure the 1/2-inch-wide foldunder faces down. Temporarily secure the replacement gore section to the original gore section upper edge with pushpins.

(g) On each side of the replacement gore section, make a 3/4-inch-wide foldunder and aline the material folded edge with the outside edge of each of the original gore section radial tapes. Temporarily secure each of the side foldunders with pushpins.

(h) At the lower end of the replacement gore section, make a doubled 3/4-inch-wide foldunder and aline the lower edge of the fold with the lower edge of the skirt reinforcement tape (lower lateral band). Temporarily secure the foldunder with pushpins.

(i) Baste the edges of the replacement gore section in accordance with TM 10-1670-201-23/TO 13C-1-41 and remove pushpins.

(j) Using the original stitch formations, the details in figure 3-3, and the specifics in table 3-3, secure the replacement gore section to the original gore section radial tapes, the vertical tape, and the skirt reinforcement tape (lower lateral band) with two rows of stitching. Insure the lower edge of the replacement gore section does not extend beyond the bottom of the skirt reinforcement tape (lower lateral band). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

(k) Remove basting, re-invert the canopy to the outside, and remove the original gore section material by cutting down the inside of each applicable radial tape, down both sides of the vertical tape, and across the upper edge of the skirt reinforcement tape (lower lateral band).

(l) Reinstall the applicable pocket band loose ends in the original location on the skirt reinforcement tape (lower lateral band) by stitching according to original installation details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

2 Gore section 2

(a) Place the canopy on a repair table with the damaged gore section facing up.

(b) Cut a piece of type III 3.8-ounce cotton muslin cloth 2 inches longer and 1 1/2 inches wider than the damaged gore section.

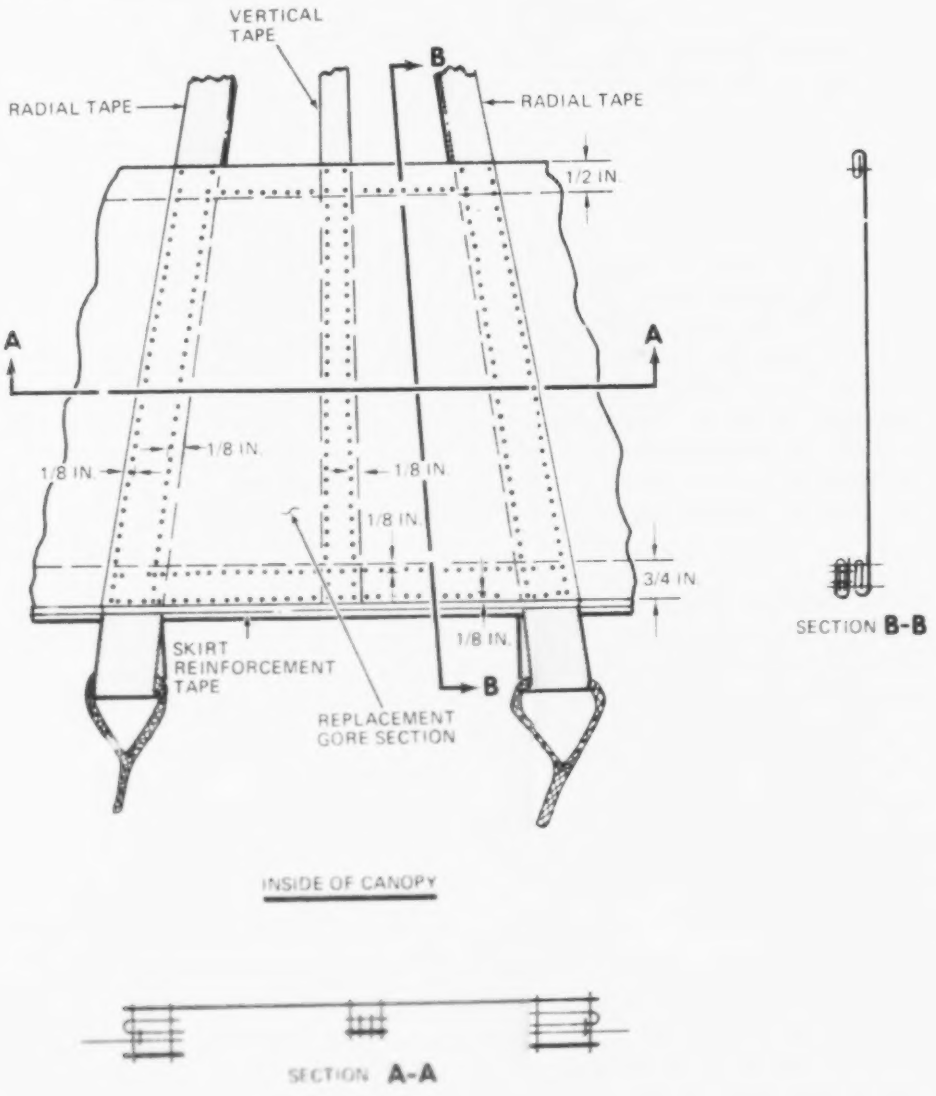

VERTICAL TAPE
B
RADIAL TAPE
RADIAL TAPE
1/2 IN.
A
A
1/8 IN.
1/8 IN.
1/8 IN.
1/8 IN.
3/4 IN.
1/8 IN.
SKIRT REINFORCEMENT TAPE
B
REPLACEMENT GORE SECTION
SECTION B-B
INSIDE OF CANOPY
SECTION A-A
AV 106684

Figure 3–3. Gore section 1 replacement details, 12-foot-dianeter high-velocity cargo parachute.

(c) Place the cut material over the damaged area and using a suitable marking device, trace the outline of the original gore section, including the width of the radial tapes on each side of the damaged area. Allow the material to extend 1 inch beyond the top and the bottom of the original gore section and 3/4 inch beyond the outer edge of each of the radial tapes. Trim excess material, as required.

(d) On the upper and lower edges of the replacement material, make a doubled 1/2-inch-wide foldunder and secure each foldunder with a single row of stitching sewn through the center of the foldunder, across the width of the material, using the specifics in table 3-3. Stitching will be made in accordance with TM 10-160-201-23/TO 13C-1-41.

(e) Invert the canopy to the inside and position the replacement gore section material over the damaged area with the upper and lower edges of the material alined with the respective edges of the original gore section. Insure the foldunders face down and that the sides of the material extend 3/4 inch beyond the outside edge of each of the radial tapes.

(f) On each side of the replacement gore section material, make a 3/4-inch-wide foldunder and aline the folded edge with the outside edge of the damaged area radial tape. Temporarily secure the foldunders with pushpins.

(g) Baste the edges of the replacement gore section in accordance with TM 10-1670-201-23/TO 13C-1-41 and remove pushpins.

(h) Using the original stitch formations, the details in figure 3-4, and the specifics in table 3-3, secure the replacement gore section material to the original gore section radial tapes and the vertical tape with two rows of stitching. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

(i) Remove basting, re-invert the canopy to the outside and remove the original gore section material by cutting down the

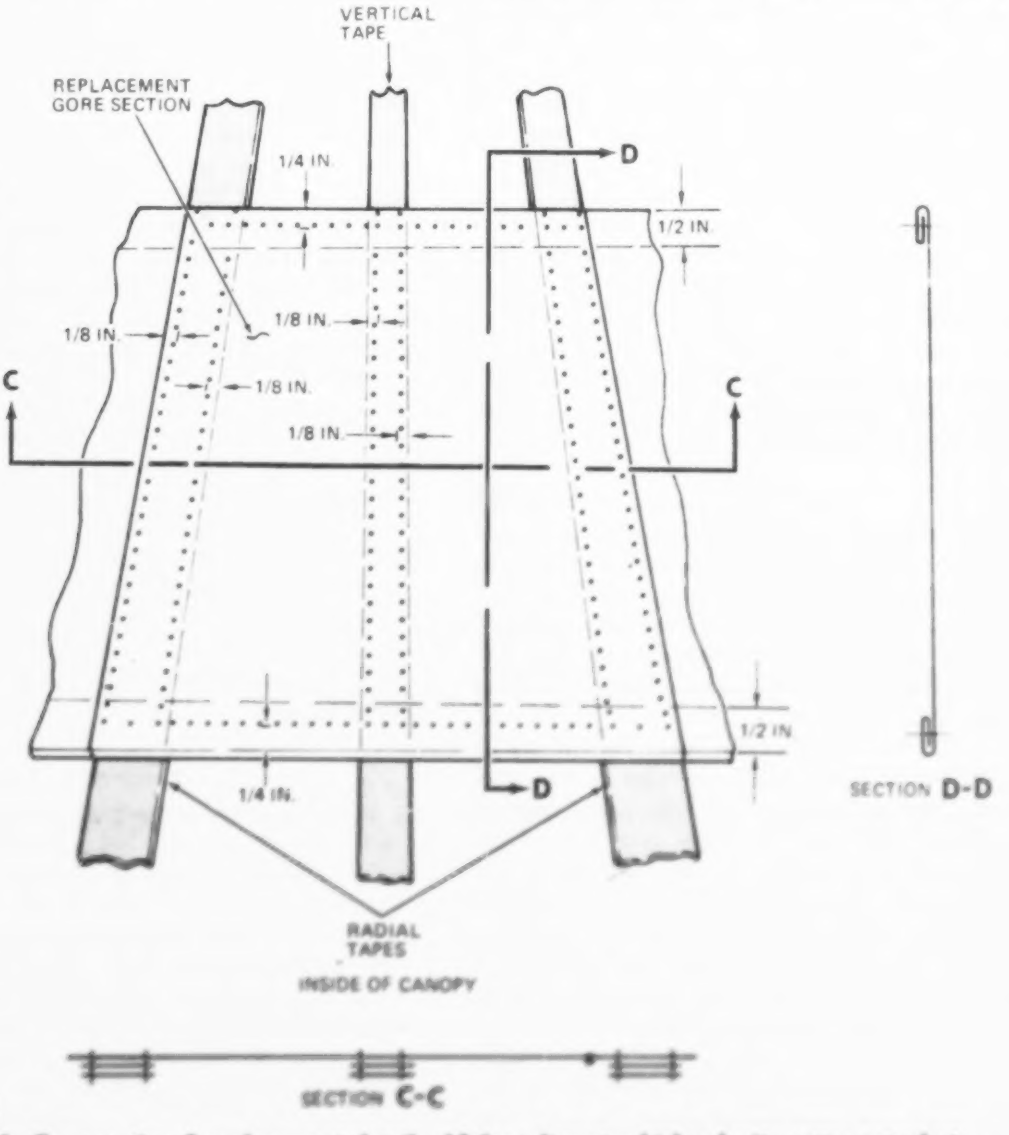

VERTICAL TAPE
REPLACEMENT GORE SECTION
1/4 IN.
D
1/2 IN.
1/8 IN.
1/8 IN.
1/8 IN.
1/8 IN.
C
C
1/2 IN.
1/4 IN.
D
SECTION D-D
RADIAL TAPES
INSIDE OF CANOPY
SECTION C-C
AV 106685

Figure 3–4. Gore section 2 replacement details, 12-foot-diameter high-velocity cargo parachute

inside of each of the original gore section radial tapes and on either side of the vertical tape from the upper edge through the lower edge of the section.

3 Gore section 3.

(a) Place the canopy on a repair table with the damaged gore section facing up.

(b) Cut a piece of type III 3.8-ounce cotton muslin cloth 2 1/2 inches longer and 1 1/2 inches wider than the damaged gore section.

(c) Place the cut material over the damaged area and trace the outline of the original gore section, including the width of the radial tapes on each side of the damaged area and the width of the vent reinforcement tape (upper lateral band) at the top. Allow the material to extend 1 1/2 inches beyond the upper edge of the vent reinforcement tape (upper lateral band), 1 inch below the original gore section lower edge, and 3/4 inch beyond the outside edge of each of the radial tapes. Trim excess material, as required.

(d) On the lower end of the cut material, make a double 1/2-inch-wide foldunder. Secure the foldunder with a single row of stitching sewn through the center of the foldunder, across the width of the material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(e) Invert the canopy to the inside and aline the lower edge of the foldunder made in (d) above with the lower edge of the original gore section. Allow each side of the replacement gore section material to extend 3/4 inch beyond the outside edges of the original gore section radial tapes. Insure the 1/2-inch-wide foldunder faces down. Temporarily secure the replacement gore section to the original gore section lower edge with pushpins.

(f) On each side of the replacement gore section material, make a 3/4-inch-wide foldunder and aline the folded edge with the outside edge of each of the original gore section radial tapes. Temporarily secure each of the side foldunders with pushpins.

(g) At the upper end of the replacement gore section, make a doubled 3/4-inch-wide foldunder and aline the upper edge of the fold with the upper edge of the vent reinforcement tape (upper lateral band). Temporarily secure the foldunder with pushpins.

(h) Baste the edges of the replacement gore section in accordance with TM 10-1670-201-23/TO 13C-1-41 and remove pushpins.

(i) Using the original stitch formations, the details in figure 3-5, and the specifics in table 3-3, secure the replacement gore section material to the original gore section radial tapes, the vertical tape, and the vent reinforcement tape (upper lateral band) with two rows of stitching. Insure the upper edge of the replacement gore section does not extend beyond the top edge of the vent reinforcement tape (upper lateral band). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

(j) Remove basting, reinvert the canopy to the outside, and remove the original gore section material by cutting up the inside of each applicable radial tape, up both sides of the vertical tape, and across the lower edge of the vent reinforcement tape (upper lateral band).

(3) *Skirt reinforcement tape (lower lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a damaged skirt reinforcement tape according to lower lateral band splicing procedures outlined in TM 10-1670-201-23/TO 13C-1-41, using 3/4-inch-wide, type "I" nylon tape, and the specifics in table 3-3.

(4) *Radial tape.*

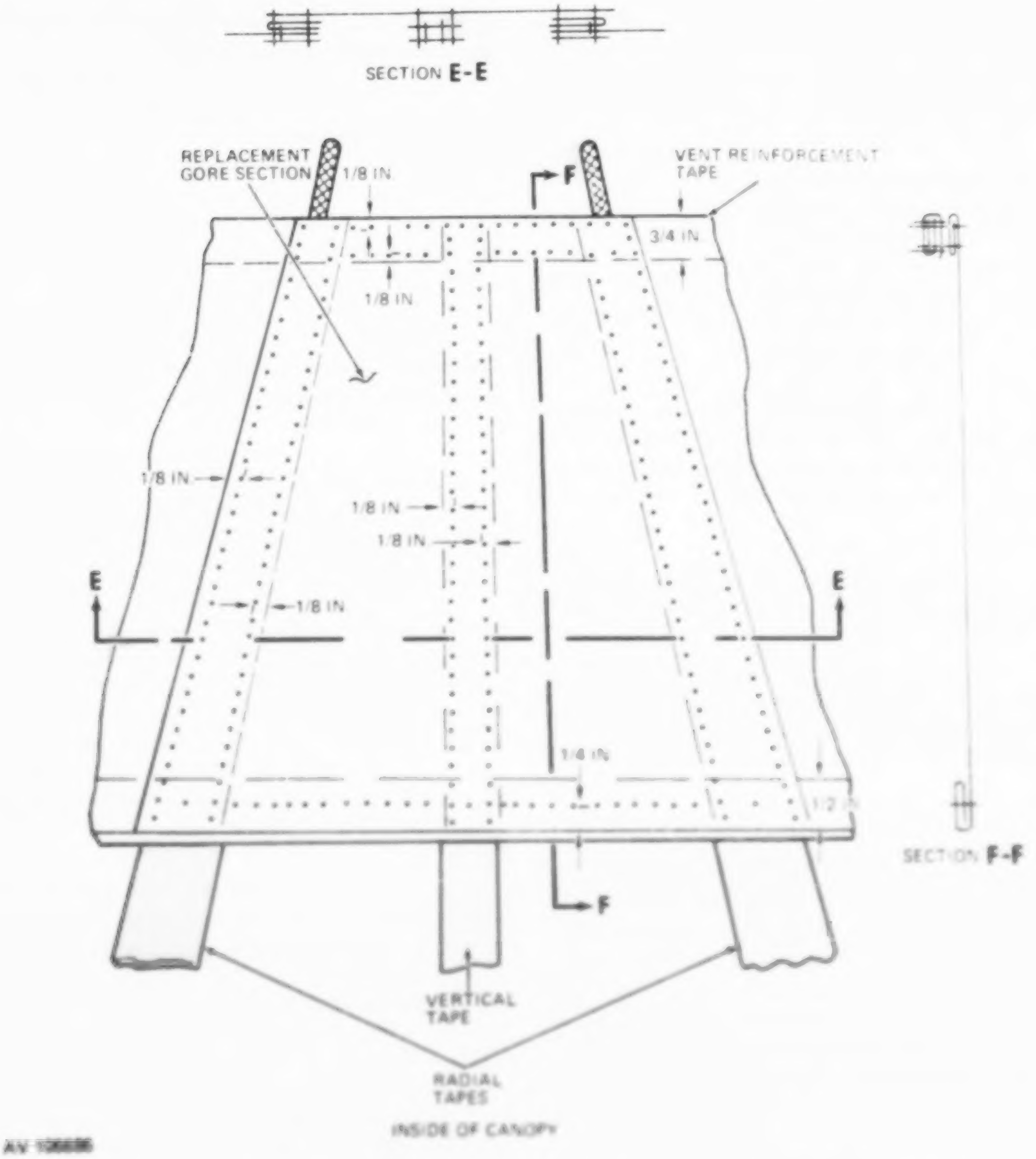

SECTION E-E
REPLACEMENT GORE SECTION
1/8 IN
F
VENT REINFORCEMENT TAPE
3/4 IN
1/8 IN
1/8 IN
1/8 IN
1/8 IN
1/8 IN
E
E
1/4 IN
1/2 IN
SECTION F-F
F
VERTICAL TAPE
RADIAL TAPES
INSIDE OF CANOPY

Figure 3–5. Gore section 3 replacement details, 12-foot-diameter high-velocity cargo parachute.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a damaged radial tape as follows:

NOTE

There is no limit to the number of splices that may be made on a radial tape of the 12-foot-diameter high-velocity cargo parachute canopy.

1 Cut a length of 3/4-inch-wide, type III nylon tape long enough to extend 4 inches beyond each side of the damaged area and sear the ends.

2 Center the tape length over the damaged area and secure the splice by stitching a box-stitch formation along the full length of the splice material. Stitching will be made according to TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(5) *Suspension line.*

(a) Restitching. Restitch broken or loose stitching on each end loop of a suspension line according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A suspension line may be spliced one time as follows:

1 Cut a length of type I coreless nylon cord long enough to extend 3 inches beyond each side of the damaged area and wax the ends.

2 Center the cord length over the damaged area. Secure the splice by stitching a 1/8-inch-wide row of double-throw zigzag stitching the full length of the splice, extending the stitching 1/2 inch beyond each end of the splice material. Stitching will be made using the specifics in table 3-3.

(c) Replacement. Replace an unservicable suspension line by fabricating as follows:

1 Place the canopy assembly in proper layout on a repair table.

2 Apply partial tension to the suspension lines and trace the defective suspension line from the riser to the suspension line attaching loop at the canopy skirt. Upon completion of line tracing, release line tension.

3 Remove the original suspension line from the canopy and the applicable riser by cutting the formed loop located on each end of the suspension line.

4 Cut a 13-foot length of type I coreless nylon cord and taper-cut each end.

5 Using a suitable marking aid, mark the cord at points 4 1/2, 6 1/2, and 11 inches from the tapered end.

6 Pass 6 inches of the marked cord through the original suspension line attaching loop on the canopy skirt.

7 Insert a suitable splicing aid into the cord casing at the 11-inch mark and pass the inserted aid up through the cord casing and to the outside at the 6 1/2-inch mark.

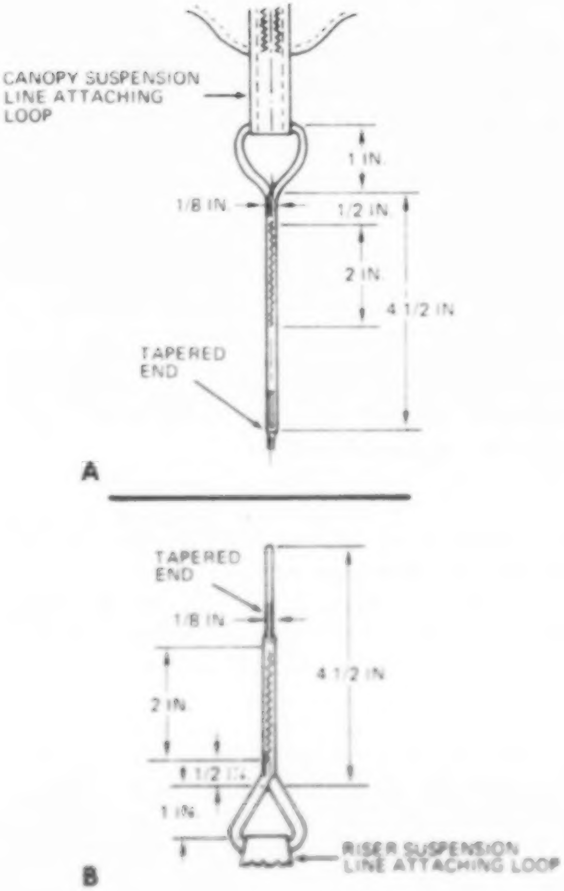
8 Attach the cord marked tapered end to the splicing needle at the 6 1/2-inch mark and pull the splicing aid with attached cord end back into and down inside of the cord casing until the 4 1/2- and 6 1/2-inch marks are alined. Hold the alined marks together and pull the splicing aid with the cord end attached down and to the outside at the 11-inch mark.

9 Detach the tapered cord end from the splicing aid and while holding the 4 1/2- and 6 1/2-inch marks together, pull the cord at a point below the 11-inch mark to allow the cord tapered end to withdraw into the cord casing.

10 Beginning at a point 1/2 inch below the alined 4 1/2- and 6 1/2-inch marks, secure the formed loop by stitching a 1/8-inch-wide by 2-inch-long row of double-throw zigzag stitching (A, fig. 3-6). Stitching will be made using the specifics in table 3-3.

11 On the opposite end of the suspension line, measure and mark the cord tapered end as outlined in 5 above.

12 Trace the replacement suspension line from the canopy skirt down to the applicable riser suspension line attaching loop.



AV 106687

A. Attaching the suspension line at canopy skirt.
B. Attaching the suspension line to the riser.

Figure 3-6. Suspension line replacement details, 12-foot-diameter high-velocity cargo parachute.

13 Apply tension to the replacement suspension line equal to that of an adjacent suspension line to ascertain that the marks made on the replacement line are located correctly.

14 Release tension on the suspension lines and attach the line length to the applicable riser suspension line attaching loop (B) using the procedures in 6 through *10* above. The suspension line finished length should measure 12 feet, plus or minus 1 inch.

(6) *Bridle loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details, using the specifics in table 3-3 and the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Replacement. Replace a damaged or missing bridle loop by fabricating as follows:

1 Cut a 10-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

2 Pass one end of the webbing through all the canopy vent lines and join both webbing ends together above the vent lines with a 2-inch-long overlap.

3 Beginning at a point 1/4 inch back from one overlapped webbing end, secure the overlapped ends together with a 1 1/2-inch-long single-X-box-stitch formation, stitched to a point 1/4 inch back from the opposite overlapped webbing end (fig. 3-7). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 If applicable, remove the original bridle loop from the canopy vent lines by cutting the loop webbing.

(7) *Suspension line attaching loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. A damaged suspension line attaching loop shall be replaced by fabricating as follows:

1 Remove the original suspension line attaching loop by cutting the applicable original radial tape at a point immediately below the lower edge of the skirt reinforcement tape (lower lateral band).

2 Cut a 19-inch length of 3/4-inch-wide, type III nylon tape.

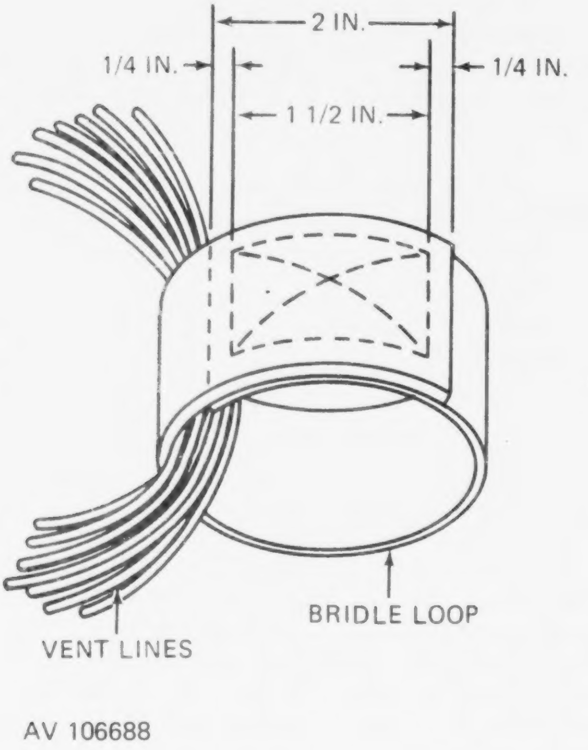

2 IN.
1/4 IN.
1/4 IN.
1 1/2 IN.
BRIDLE LOOP
VENT LINES
AV 106688

Figure 3–7. Bridle loop installation details, 12-foot-diameter high-velocity cargo parachute.

3 Double the tape length, aline the ends, and stitch a single row of stitching 1/8 inch in from each side along the doubled tape length. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 Using a suitable marking aid, mark the doubled tape length at a point inches from each end.

5 Center the doubled tape length in the top loop of the original attached suspension line and aline both ends of the tape above the suspension line.

6 Position one end of the tape length under and the opposite tape length end over the applicable radial tape and aline the two 3-inch marks made in *4* above with the lower edge of the skirt reinforcement tape (lower lateral band) to form a loop below the canopy skirt.

7 Secure the ends of the formed loop to the radial tape by stitching two 3/16-inch-wide by 3-inch-long rows of double-throw zigzag stitching according to the details figure 3-8. Stitching will be made using th specifics in table 3-3.

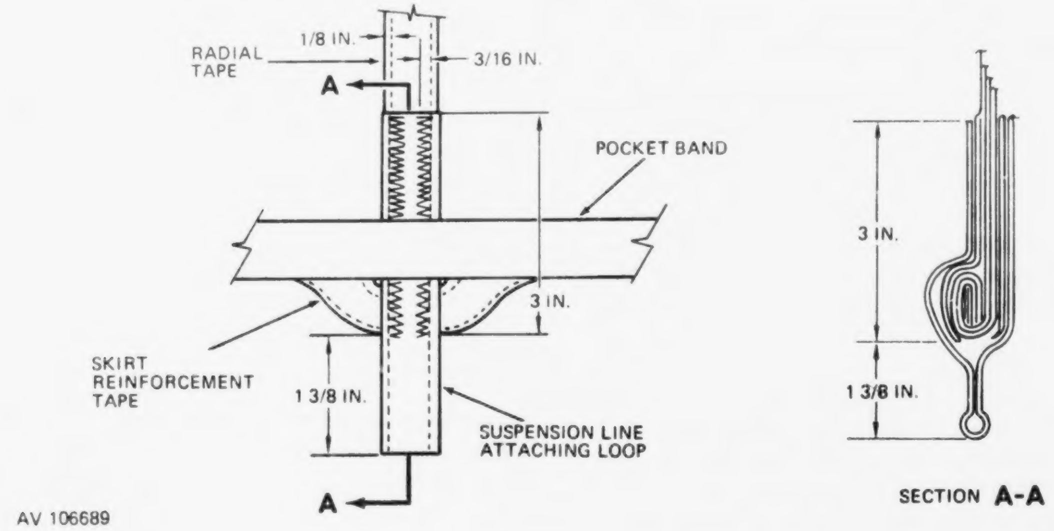

RADIAL TAPE
1/8 IN.
3/16 IN.
A
POCKET BAND
3 IN.
SKIRT REINFORCEMENT TAPE
1 3/8 IN.
SUSPENSION LINE ATTACHING LOOP
A
AV 106689
3 IN.
1 3/8 IN.
SECTION A-A

Figure 3–8. Suspension line attaching loop details, 12-foot-diameter high-velocity cargo parachute.

(8) *Vent line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable vent line by fabricating as follows:

1 Using a suitable marking aid, mark the canopy at each end of the original vent line.

2 Cut the stitching on each end of the original vent line and remove the line from the canopy.

3 Cut a 14-inch length of type I coreless nylon cord and wax the cord ends.

4 Position the ends of the cord length in the location of the original vent line ends and secure each end by stitching a 1/8-inch-wide by 2-inch-long row of double-throw zigzag stitching (fig. 3-9), using the specifics in table 3-3.

(9) *Pocket band.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

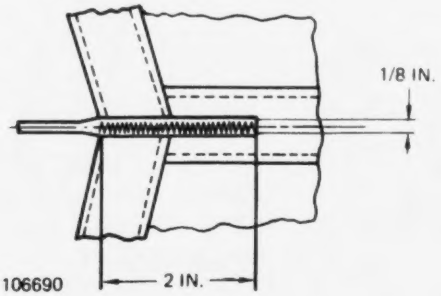


Figure 3–9. Vent line stitching details, 12-foot-diameter high-velocity cargo parachute.

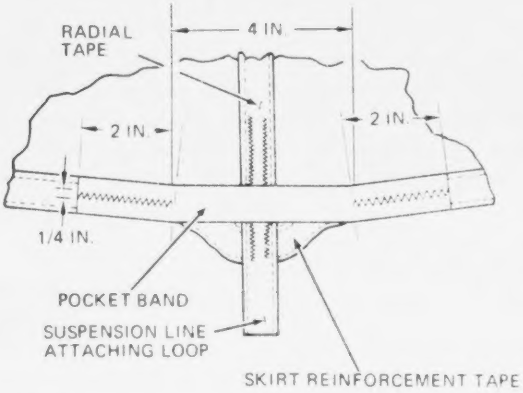


Figure 3–10. Pocket band replacement, 12-foot-diameter high-velocity cargo parachute.

(b) Replacement. Replace an unserviceable pocket band by fabricating as follows:

1 Using a suitable marking aid, mark the canopy at each end of the original pocket band.

2 Cut the stitching on both ends of the original pocket band and remove the pocket band from the canopy skirt.

3 Cut an 8-inch length of 3/4-inch-wide, type III nylon tape and position the tape length in the original pocket band location. Secure each end of the replacement pocket band by stitching a 1/4-inch-wide by 2-inch-long row of double-throw zigzag stitching according to the details in figure 3-10. Stitching will be made using the specifics in table 3-3.

(10) *Riser.*

(a) Restitching. Restitch broken or loose stitching according to original construction details (fig. 3-11) and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

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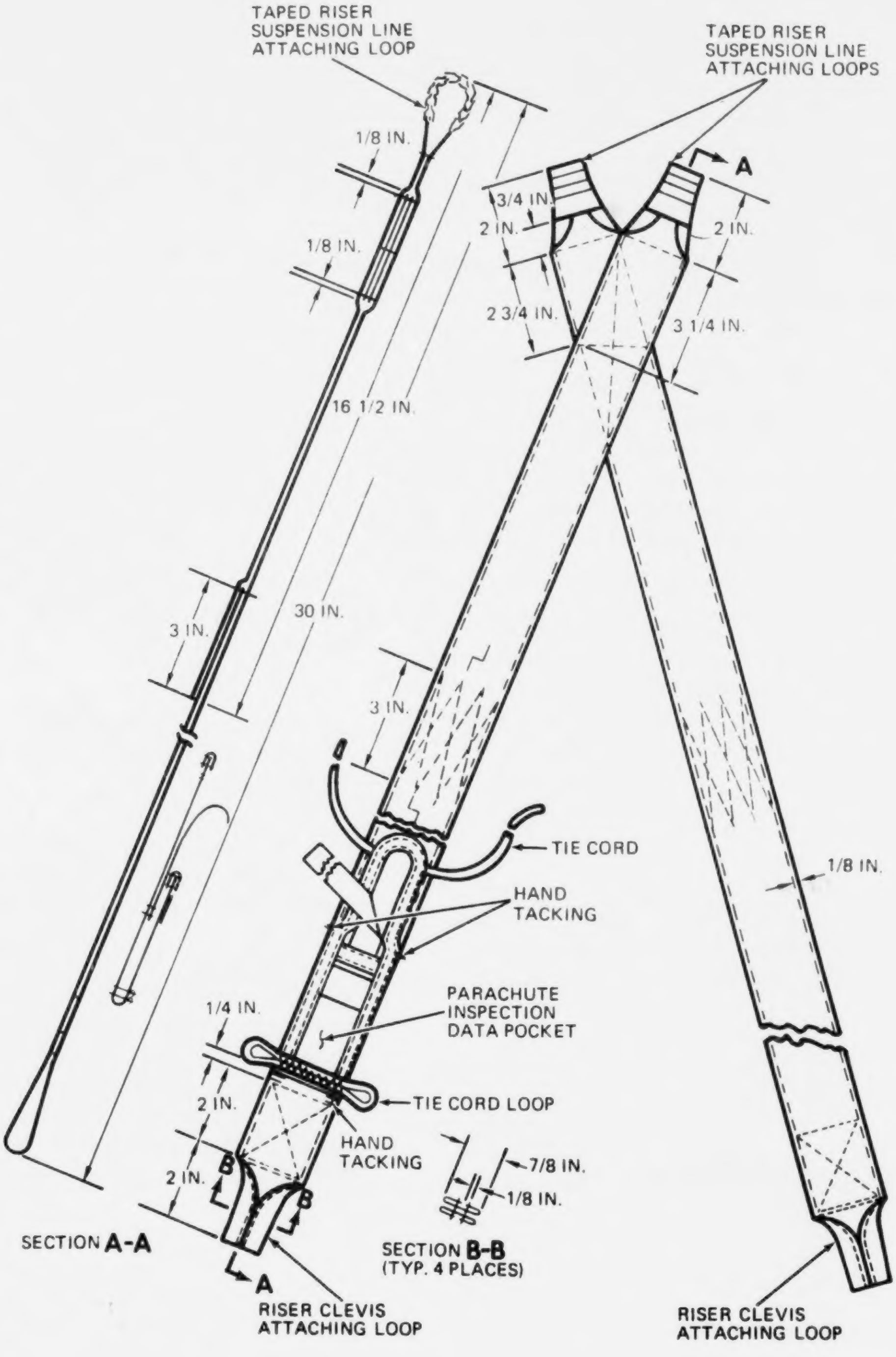
TAPED RISER SUSPENSION LINE ATTACHING LOOP
TAPED RISER SUSPENSION LINE ATTACHING LOOPS
A
1/8 IN.
1/8 IN.
3/4 IN.
2 IN.
2 IN.
2 3/4 IN.
3 1/4 IN.
16 1/2 IN.
30 IN.
3 IN.
3 IN.
TIE CORD
HAND TACKING
1/8 IN.
PARACHUTE INSPECTION DATA POCKET
1/4 IN.
2 IN.
TIE CORD LOOP
HAND TACKING
2 IN.
B
B
7/8 IN.
1/8 IN.
SECTION A-A
SECTION B-B (TYP. 4 PLACES)
A
RISER CLEVIS ATTACHING LOOP
RISER CLEVIS ATTACHING LOOP
AV 106692

Figure 3–11. Riser construction details, 12-foot-diameter high-velocity cargo parachute.

(b) Retaping. When required, retape the rolled portion of a suspension line attaching loop at the top of a riser strap using five turns single of 1-inch-wide, type I pressure-sensitive tape, cut or split to a 1/2-inch width. However, prior to retaping, insure the remains of all original tape have been removed.

(c) Restencil. As required, restencil identification markings on a riser strap using procedures in TM 10-1670-201-23/TO 13C-1-41.

(d) Splicing. Each of the two riser straps may be spliced one time as follows:

1 Cut a length of 1 23/32-inch-wide, type VIII nylon webbing long enough to extend 4 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure each end of the splice by stitching a 3-inch-long three-point-WW-stitch formation, 1/8 inch in from each side edge of the splice material. Overstitch each end of the splice material by one stitch on each point of the stitch formation. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(e) Replacement. Replace an unserviceable riser by fabricating as follows:

NOTE

Prior to disconnecting the riser straps from the suspension lines, temporarily secure each suspension line group to prevent disarrangement by passing a suitable length of 1/4-inch-wide, type I cotton webbing through the loops on the lower end of the suspension lines and tieing the webbing ends together.

1 Disconnect each of the original riser straps from the canopy suspension lines by cutting the attaching loops located at the top of each riser strap. Insure the loops formed on the lower end of the suspension lines are not damaged during the cutting process. Also, cut the tacking which secures the inspection data pocket (log record pocket) to the left riser strap and remove the pocket. Retain the pocket for further use, if serviceable.

2 Cut two 63-inch lengths of 1 23/32-inch-wide type VIII nylon webbing and sear the ends.

3 Using a suitable marking aid, mark each webbing length at a point 16 1/2 inches from each end.

4 Working on each side of one 16 1/2-inch mark on one webbing length, roll 2 inches of both webbing edges inward to the center of the webbing width (fig. 3-12). Secure each rolled edge by stitching a 4-inch-long single row of stitching according to original construction details. Also, stitch a single row across the webbing width at one end of the rolled edges and stitch a double row at the opposite end. Repeat this procedure at each of the remaining 16 1/2-inch marks on both webbing lengths. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Ascertain which rolled edges on the webbing lengths will form the suspension line attaching loops and serve 2 1/2 inches of the applicable rolled edges of the intended loops with five turns single of 1-inch-wide pressure-sensitive tape, cut or split to a 1/2-inch width.

6 Begin formation of the left riser strap by passing one end of a riser webbing length through the attaching loops on the right group of suspension lines and center the attaching loops in the taped webbing area.

7 Using the details of figure 3-11, form the riser clevis attaching loop at the bottom of the riser webbing length by making a 16 1/2-inch-long foldback in the 46 1/2-inch-long running end.

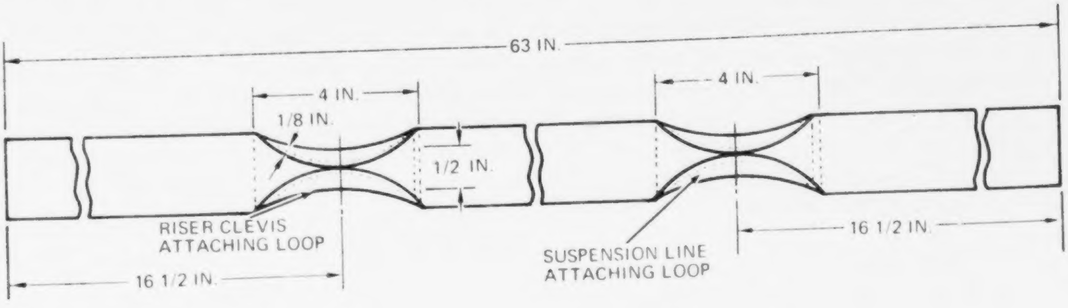

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Figure 3–12. Construction details for riser loops, 12-foot-diameter high-velocity cargo parachute.

8 Fold the 16 1/2-inch-long top running end down to overlap the webbing bottom foldback by 3 inches.

9 Temporarily handtack the riser webbing plies together at the center of the 3-inch-long overlap area. Also, temporarily handtack the center of the webbing plies together at points 1 3/4 and 5 1/2 inches down from the riser suspension line attaching loops. Temporary tacking will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

10 Begin formation of the right riser strap by passing one end of the remaining riser webbing length through the left riser webbing plies, between the two temporary tacks made at the top end of the left riser strap. Further, thread the right riser webbing length through the attaching loops on the left group of suspension lines until the loops are centered in the taped webbing area.

11 Using the procedure in 7 above, form the riser clevis attaching loop on the bottom end of the right riser strap. Further fold the 16 1/2-inch-long top running end of the right riser webbing down through the left riser webbing plies and overlap the webbing bottom foldback by 3 inches. Temporarily handtack the center of the right riser webbing plies together in the 3-inch-long overlap area. Temporary tacking will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

12 Using the details in figure 3-11, original construction details, and the specifics of table 3-3, secure the overlapped webbing ends on each riser strap by stitching a 3-inch-long four-point-WW-stitch formation. Insure the temporary tacking is removed from each of the overlapped webbing end areas prior to stitching. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

13 Aline the riser suspension line attaching loops according to figure 3-11 and secure the webbing plies of each riser length together by stitching a 26-inch-long box-stit formation. Also stitch a single-X in the be formed at the point where the left and right riser straps intersect. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

14 At a point 2 inches above the riser clevis attaching loop on each riser strap, stitch a 2-inch-long single-X-box-stitch formation, with one double end, according to the details in figure 3-11. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics of table 3-3. Remove the temporary ties made on the lower end loops of each suspension line group.

15 Position a serviceable i spection data pocket (log record pocket) on th left riser with the pocket bottom edge located at a point 4 1/4 inches above the riser clevis attaching loop and handtack the pocket to the riser webbing at each of the four corners using two turns double, ticket No. 5 waxed cotton thread. Secure the tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/4 inch. inch.

(11) *Parachute inspection data pocket (log record pocket).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Retacking. Retack a parachute data inspection pocket as prescribed in TM 10-1670-201-23/TO 13C-1-41.

(c) Replacement. Replace a missing or unserviceable parachute inspection data pocket (log record pocket) with a serviceable item from stock.

(12) *Vent reinforcement tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vent reinforcement tape (upper lateral band) may be spliced one time as follows:

1 Cut a length of doubled 3/4-inch-wide, type III nylon tape long enough to extend beyond two vent lines on each side of the damaged vent reinforcement (upper lateral band) area and sear the ends.

2 Center the doubled tape length over the damaged area and secure the splice by stitching a box-stitch formation the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(13) *Vertical Tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vertical tape may be spliced an unlimited number of times as follows:

1 Cut a length of 1/2-inch-wide, type III nylon tape long enough to extend 4 inches beyond each side of the damaged area and sear the ends.

2 Center the tape length over the damaged area and secure the splice by stitching a box-stitch formation along the full length the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. An unserviceable 12-foot-diameter high-velocity cargo parachute canopy will only be replaced as prescribed in Appendix C.

3–8. The Deployment Bag

a. Inspection. Inspect a deployment bag used with the 12-foot-diameter high-velocity cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 12-foot-diameter high-velocity cargo parachute deployment bag by cleaning the bag material as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performaing a repair on a 12-foot-diameter high-velocity cargo parachute deployment bag which requires the cutting of stitching or an original component, insure that adjacent bag material is not damaged during the cutting process.

(1) *Attaching loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged attaching loop by fabricating as follows:

1 Remove the original attaching loop from the bag inside by cutting and removing the stitching securing the loop.

2 Cut an 8-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

3 Fold the webbing length according to original construction details and the details in figure 3-13.

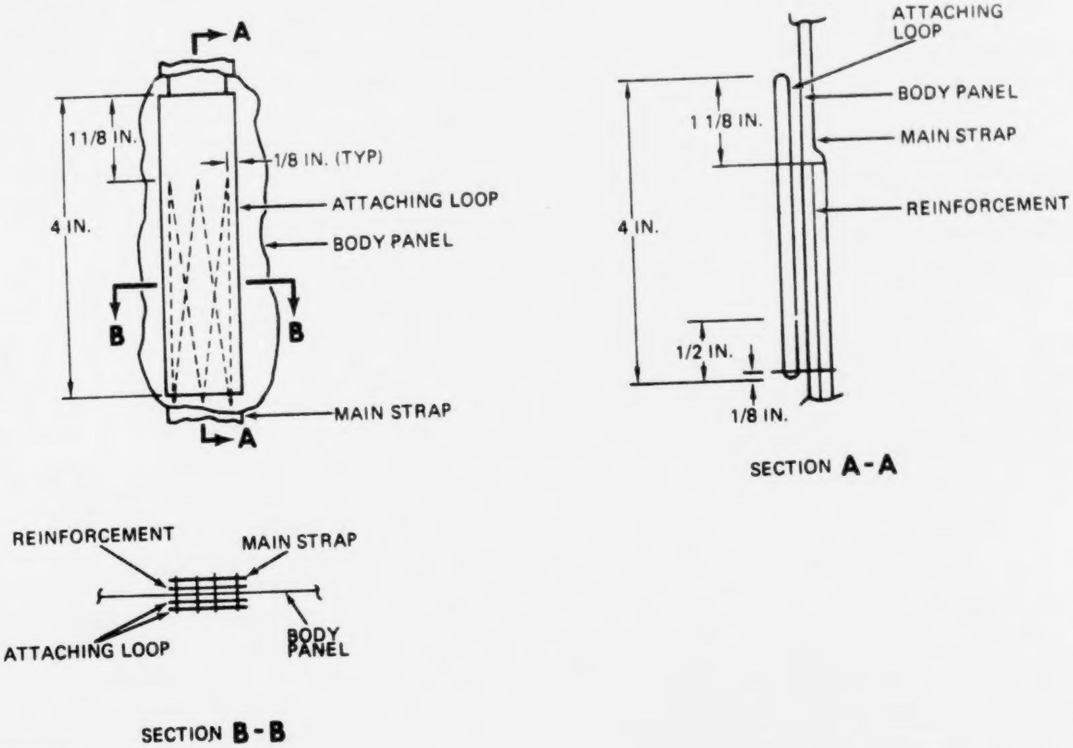
4 Place the folded webbing in the original attaching loop location and secure the webbing loop by stitching a 2 7/8-inch-long three-point-WW-stitch formation according to the details in figure 3-13. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(2) *Main strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A deployment bag main strap may be spliced an unlimited number of times as follows:

1 As applicable, according to the location of the damaged area, cut and remove the original stitching which secures the tie loop on the bag outside, the attaching loop on the bag inside, or 1 inch of the stitching on each side of the main strap which secures the suspension line protector flap.


A
1 1/8 IN.
1/8 IN. (TYP)
ATTACHING LOOP
BODY PANEL
4 IN.
B
B
MAIN STRAP
A
ATTACHING LOOP
BODY PANEL
MAIN STRAP
1 1/8 IN.
REINFORCEMENT
4 IN.
1/2 IN.
1/8 IN.
SECTION A-A
REINFORCEMENT
MAIN STRAP
ATTACHING LOOP
BODY PANEL

SECTION B-B

AV 106694

Figure 3–13. Deployment bag attaching loop fabrication and attaching details, 12-foot-diameter high-velocity cargo parachute.

2 Cut a length of 1-inch-wide, type II cotton webbing long enough to extend 4 inches beyond each side of the damaged area and wax the ends.

3 Center the webbing length over the damaged area and secure each end of the splice webbing by stitching a 2-inch-long single-X-box-stitch formation with one double end. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 As applicable, reinstall the items removed in *1* above by restitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Replacement. Replace a main strap which is damaged beyond repair by fabricating as follows:

1 Cut and remove the stitching which secures the tie loop to the main strap on the bag outside, the stitching securing the attaching loop on the bag inside, and the stitching which secures the suspension line protector flap to the deployment bag body. Retain the two loops and the protector flap for further use, if serviceable.

2 Cut the stitching which secures the damaged main strap to the deployment bag body and remove the original strap.

3 Cut a 42 1/4-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

4 Position the webbing length in the original strap location and secure the webbing by stitching according to original construction details and the details in figure 3-14. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

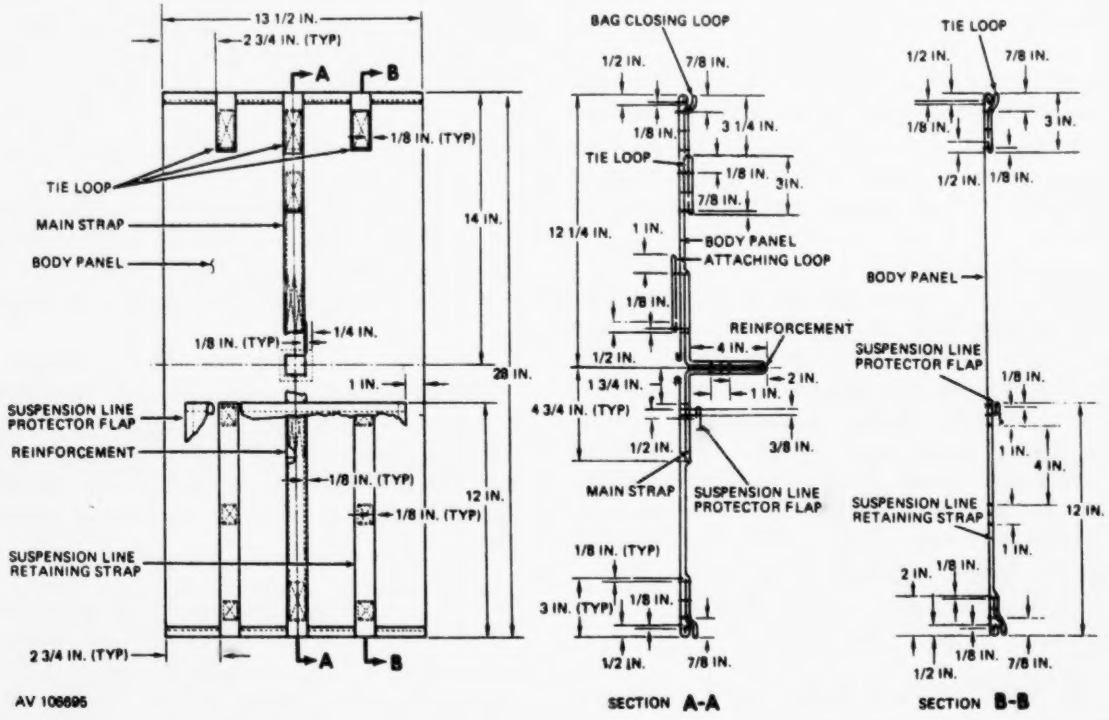

13 1/2 IN.
2 3/4 IN. (TYP)
A
B
1/8 IN. (TYP)
TIE LOOP
MAIN STRAP
BODY PANEL
14 IN.
1/8 IN. (TYP)
1/4 IN.
1 IN.
28 IN.
SUSPENSION LINE PROTECTOR FLAP
REINFORCEMENT
1/8 IN. (TYP)
12 IN.
1/8 IN. (TYP)
SUSPENSION LINE RETAINING STRAP
2 3/4 IN. (TYP)
A
B
AV 106695
BAG CLOSING LOOP
1/2 IN.
7/8 IN.
1/8 IN.
3 1/4 IN.
TIE LOOP
1/8 IN.
3IN.
7/8 IN.
12 1/4 IN.
1 IN.
BODY PANEL
ATTACHING LOOP
1/8 IN.
REINFORCEMENT
4 IN.
1/2 IN.
1 3/4 IN.
2 IN.
1 IN.
4 3/4 IN. (TYP)
1/2 IN.
3/8 IN.
MAIN STRAP
SUSPENSION LINE PROTECTOR FLAP
1/8 IN. (TYP)
3 IN. (TYP)
1/8 IN.
1/2 IN.
7/8 IN.
SECTION A-A
TIE LOOP
1/2 IN.
7/8 IN.
1/8 IN.
3 IN.
1/2 IN.
1/8 IN.
BODY PANEL
SUSPENSION LINE PROTECTOR FLAP
1/8 IN.
1 IN.
4 IN.
SUSPENSION LINE RETAINING STRAP
12 IN.
1 IN.
2 IN.
1/8 IN.
1/8 IN.
7/8 IN.
1/2 IN.
SECTION B-B

Figure 3–14. Construction and attachment details for deployment bag straps and loops, 12-foot-diameter high-velocity cargo parachute.

5 If serviceable, reinstall the original tie loop, attaching loop, and suspension line protector flap removed in *1* above by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics of table 3-3. However, if any of the items require repair or replacement, refer to paragraph (1) above or paragraphs (3) through (5) below accordingly.

(3) *Suspension line retaining strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged suspension line retaining strap by fabricating as follows:

1 Cut and remove the stitching which secures the suspension line protector flap to the deployment bag body to a point 1 inch beyond each edge of the affected suspension line retaining strap. Further, cut the original suspension line retaining strap webbing on each side of the original single-X-box-stitch formations.

2 Cut a 14-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

3 Make a 2-inch-long fold-under on one end of the webbing length and place the webbing in the original strap location with the end of the loop formed by the fold-under alined with the lower edge of the deployment bag. Secure the webbing by stitching according to original construction details and the details in figure 3-14. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 Restitch the suspension line protector flap according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(4) *Tie loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged or missing tie loop by fabricating as follows:

1 If applicable, remove a damaged tie loop by cutting the stitching at the point of loop attachment to the deployment bag.

2 Cut a 6-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

3 Form the replacement tie loop according to original construction details and the details in figure 3-14. Position the formed replacement loop in the original tie loop location and secure the loop by stitching according to the original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(5) *Panels and flaps.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter according to procedures in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. There is no limit to the number of darns which may be made on the bag panels and flaps.

(c) Patching. Patch a hole or tear which exceeds 3/4 inch in length or diameter as prescribed in TM 10-1670-201-23/TO 13C-1-41, using 8.2-ounce cotton sateen cloth and the specifics in table 3-3. There is no limit to the number of patches which may be made on the bag panels and flaps.

(d) Restencil. As required, restencil identification markings using the procedures in TM 10-1670-201-23/TO 13C-1-41.

d. Replacement. Replace an unserviceable deployment bag with a serviceable item from stock.

-9. The Static Line

a. Inspection. Inspect a 15-foot-long static line used with the 12-foot-diameter high-velocity cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 15-foot-long static line by cleaning the static line webbing and associated riser clevis as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Static line webbing.*

(a) Restitching. Restitch broken or loose stitching according to original construc-on details and TM 10-1670-201-23/TO 3C-1-41, using the specifics in table 3-3.

(b) Retaping. As required, retape the riser clevis attaching loop located on one end of the static line length as follows:

1 Remove the remains of the original tape from the riser clevis attaching loop.

2 Using a 2 1/2-inch length of 1-inch-wide, type I pressure-sensitive tape, serve the riser clevis attaching loop with one and a half turns.

(c) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Riser clevis.* Repair or replace a riser clevis used on a 15-foot-long static line as prescribed in paragraph 3-7*c*.

d. Replacement. Replace an unserviceable static line by fabricating as follows:

(1) Remove the riser clevis from the clevis attaching loop and further remove the static line length from the attaching loop on the deployment bag. Retain the riser clevis for further use, if serviceable.

(2) Cut a 192 1/2-inch length of 3/4-inch-wide tubular nylon webbing and sear the ends.

(3) Make a 7-inch-long foldback on one end of the webbing length. Beginning at the seared edge, secure the foldback by stitching two 3/16-inch-wide by 4-inch-long rows of double-throw zigzag stitching according to the details in figure 3-15. Stitching will be made using the specifics in table 3-3.

(4) On the opposite end of the webbing length, make a 5 1/2-inch-long foldback and secure the foldback using the procedure in (3) above.

(5) Using a 2 1/2-inch length of 1-inch-wide, type I pressure-sensitive tape, serve the 1 1/2-inch-long loop with one and a half turns.

(6) Stencil the applicable identification markings on the static line webbing using the details in figure 3-15 and the procedures in TM 10-1670-201-23/TO 13C-1-41.

(7) If required, reattach the static line to the static line attaching loop on the deployment bag as outlined in paragraph 2-13.

(8) Install a serviceable riser clevis on the 1 1/2-inch-long clevis attaching loop according to original riser clevis installation details.

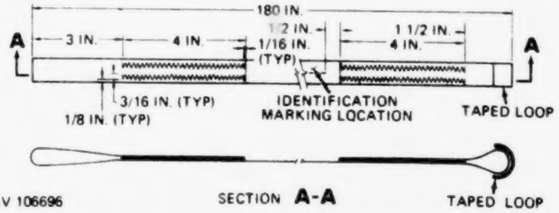
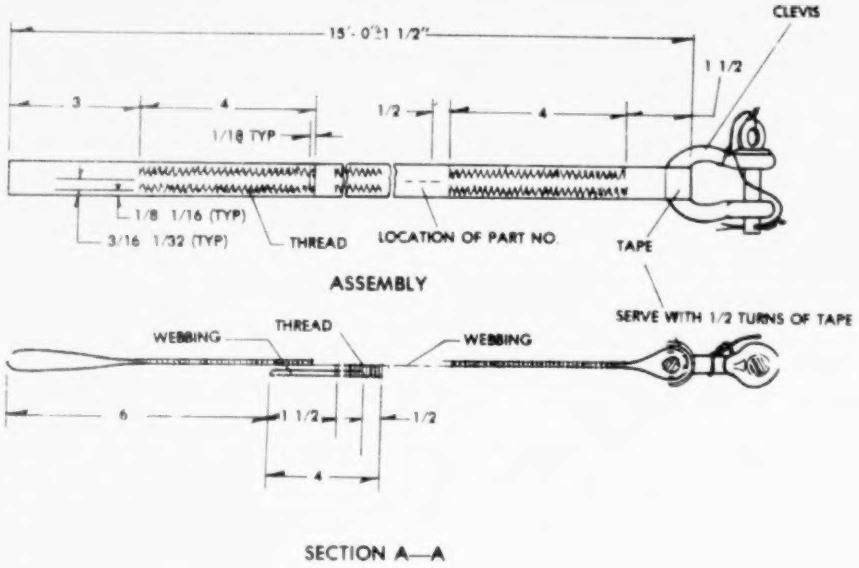


Figure 3–15. Static line construction details, 12-foot-diameter high-velocity cargo parachute.


CLEVIS
15'- 0"±1 1/2"
1 1/2
3
4
1/2
4
1/16 TYP
1/8 1/16 (TYP)
3/16 1/32 (TYP)
THREAD
LOCATION OF PART NO.
TAPE
SERVE WITH 1/2 TURNS OF TAPE
WEBBING
THREAD
WEBBING
6
1 1/2
1/2
4

ASSEMBLY

SECTION A—A

Figure 3-15A. Static Line Construction Details, G-14, G-13 and T7-A Cargo Parachutes

NOTE

The static line (P/N 11-1-219) can now be used on the G-14, G-13 and T7-A Cargo Parachutes. Pack opening loop must be added in accordance with Figure 3-15A.

Section V. THE G-13 24-FOOT-DIAMETER CARGO PARACHUTE

3–10. The Parachute Canopy

a. Inspection. Inspect a G-13 24-foot-diameter cargo parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a G-13 24-foot-diameter cargo parachute canopy by cleaning and drying the canopy and associated canopy components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a G-13 24-foot-diameter cargo parachute canopy which requires cutting of stitching or an original part, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Bridle line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Retaping the bridle loop. As required, remove the original tape length and retape the bridle loop according to original construction details using a suitable length of 1-inch-wide, type I pressure-sensitive tape cut or split to a 1/2-inch-width.

(c) Re-serving the bridle loop. As required, cut and remove the original bridle loop serving material and re-serve the loop with a 1/2-inch-long overhand french spiral according to original construction details using a suitable length of ticket No. 5 cotton thread.

(d) Replacement. Replace an unserviceable bridle line by fabricating as follows:

1 Cut and remove the serving material from the bridle loop, remove the pressure-sensitive tape from the loop, and separate the two bridle lines.

2 Cut each of the two end loops on the damaged bridle line at the point of attachment to the applicable bridle-to-canopy attaching loops.

CAUTION

Do not cut or break the threads in the type I coreless rayon cord while fabricating a replacement bridle line.

3 Using a spool of type I coreless rayon cord, taper-cut the running end by 1/2 inch. In addition, using a suitable marking aid, mark the running end at points 6 3/4, 8 1/4, and 16 inches back from the tapered end.

4 Pass 7 1/2 inches of the cord running end through one of the bridle-to-canopy attaching loops to which the original bridle line was attached.

5 Insert a suitable splicing aid into the cord running end at the 16-inch mark and work the aid through the cord casing to the outside at the 8 1/4-inch mark.

6 Attach the tapered cord end to the splicing aid. Pull the splicing aid back into the cord casing at the 8 1/4-inch mark and back through the cord until the 6 3/4- and 8 1/4-inch marks are alined.

7 Holding the cord firmly at the alined marks, withdraw the splicing aid from the cord casing at the 16-inch mark.

8 Remove the tapered cord end from the splicing aid and while holding the alined marks together, stretch the cord length to allow the tapered end to recede into the cord casing (fig. 3-16).

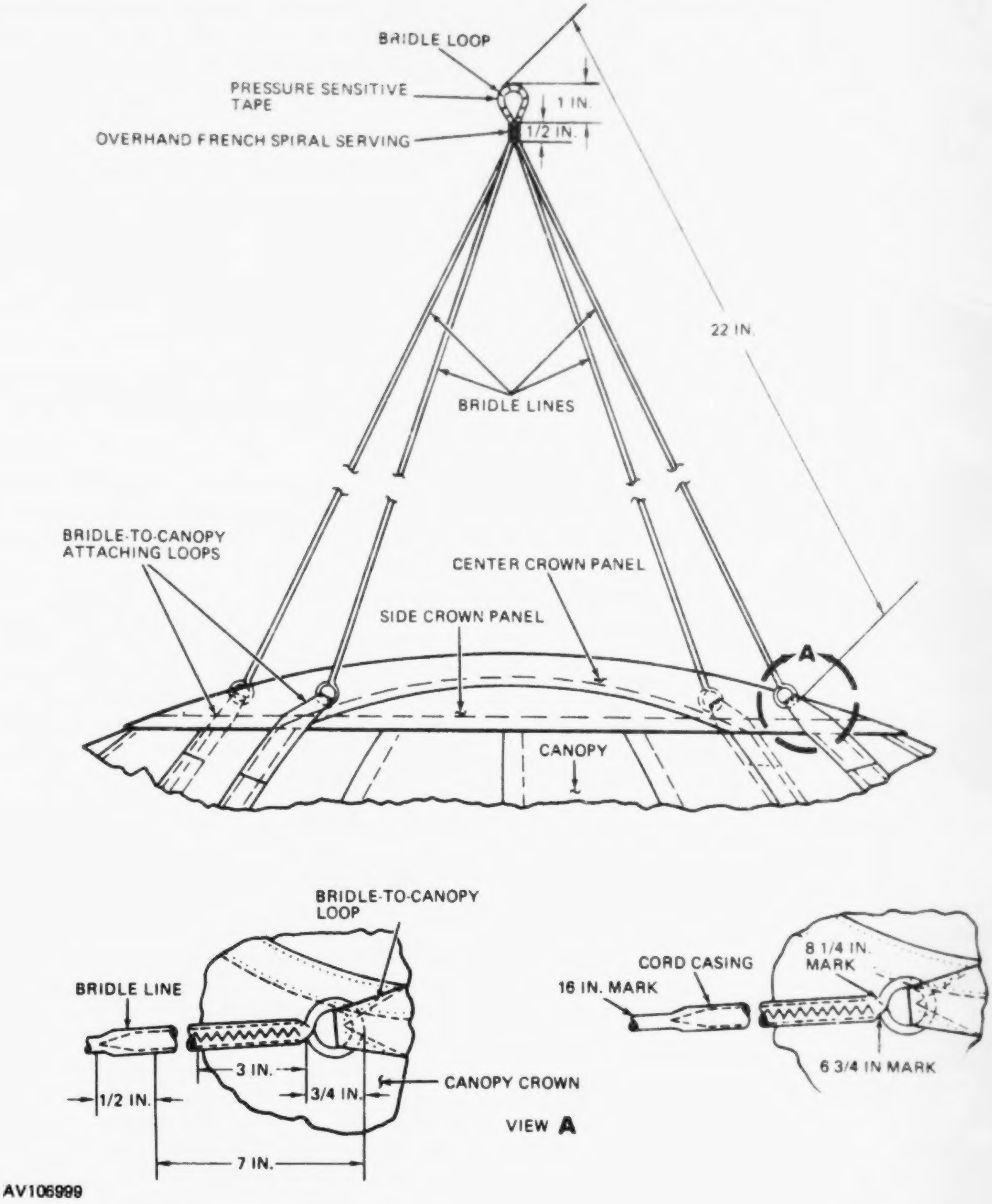

BRIDLE LOOP
PRESSURE SENSITIVE TAPE
OVERHAND FRENCH SPIRAL SERVING
1 IN.
1/2 IN.
22 IN.
BRIDLE LINES
BRIDLE-TO-CANOPY ATTACHING LOOPS
CENTER CROWN PANEL
SIDE CROWN PANEL
A
CANOPY
BRIDLE-TO-CANOPY LOOP
BRIDLE LINE
3 IN.
3/4 IN.
CANOPY CROWN
1/2 IN.
7 IN.
VIEW A
CORD CASING
16 IN. MARK
8 1/4 IN. MARK
6 3/4 IN MARK
AV106999

Figure 3–16. Bridle line and bridle line loop construction details, G-13 24-foot-diameter cargo parachute.

9 Trace the replacement bridle line cord from the point of attachment on the one bridle-to-canopy attaching loop, through the bridle loop of the remaining original bridle line, to the bridle-to-canopy attaching loop on the opposite side of the canopy crown.

10 Using a suitable marking aid, mark the replacement bridle line cord at a point 8 1/4 inches beyond the location at which the cord length intersects with the free bridle-to-canopy attaching loop.

11 Cut the cord length from the spool at the 8 1/4-inch-mark made in *10* above and also taper-cut the cord running end by 1/2 inch.

12 Using a suitable marking aid, mark the running end of the replacement bridle line as outlined in *3* above.

13 Using the procedures in *4* through *8* above, attach the marked running end of the replacement bridle line to the remaining bridle-to-canopy attaching loop from which the original bridle line was removed.

14 Beginning at the alined 6 3/4- and 8 1/4-inch marks, secure each of the bridle line end loop splices by stitching a 1/8-inch-wide by 3-inch-long row of double-throw zigzag stitching, using the specifics in table 3-3.

15 Join the two bridle lines together to reform the 1-inch-long bridle loop above the canopy and using a suitable length of 1-inch-wide, type I pressure-sensitive tape cut or split to a 1/2-inch width, wrap the 1-inch-long bridle loop according to original construction details.

16 At a point immediately below the taped portion of the bridle loop, serve the bridle lines with a 1/2-inch-long overhand french spiral using a suitable length of ticket No. 5 cotton thread.

(2) *Bridle-to-canopy attaching loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable bridle-to-canopy attaching loop by fabricating as follows:

1 Cut the stitching which secures the original bridle-to-canopy attaching loop to the canopy and remove the loop from the canopy. Further cut the attaching loop to remove the bridle line end loop.

2 Cut a 12 1/2-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

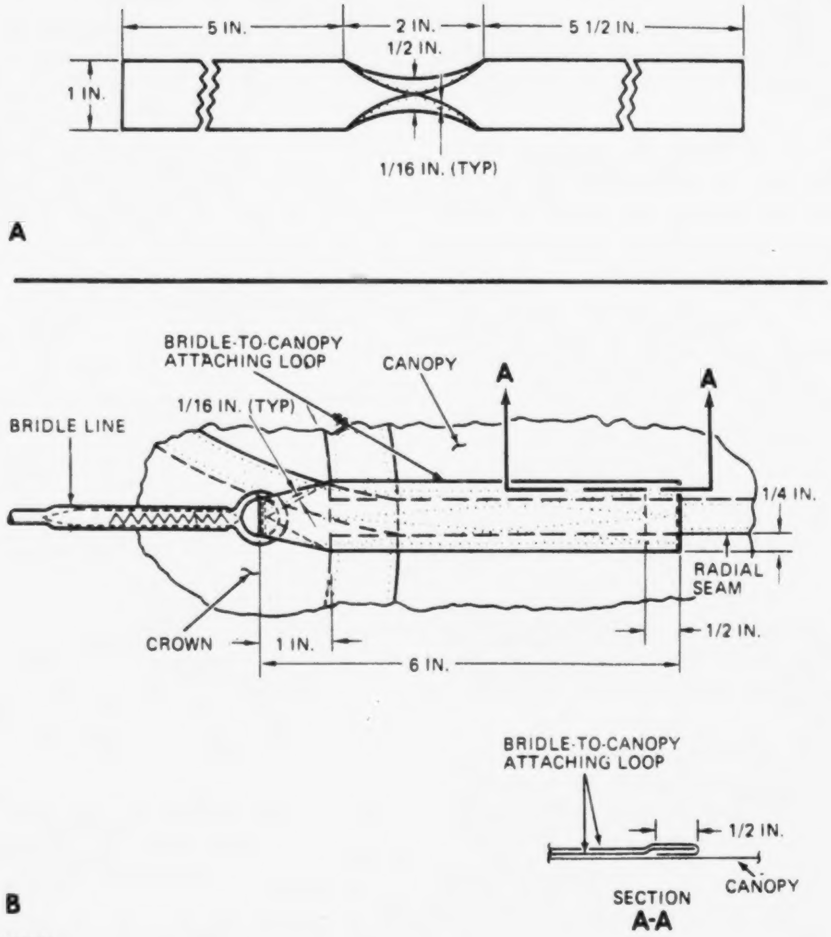
3 Using a suitable marking aid, mark the webbing length at a point 5 1/2 inches from one end and at a point 5 inches from the opposite end (A, fig. 3-17).

4 Between the two marks made in *3* above, roll 1/2 inch of each webbing edge inward to the center of the webbing width Secure each rolled edge with a 2-inch-long row o stitching. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Pass one end of the webbing length through the bridle line end loop and center the rolled webbing edges in the loop.

6 Double the webbing length with the 5 1/2-inch-long webbing end on top and make a 1/2-inch foldunder to the bottom of the lower 5-inch-long webbing end as shown in B, figure 3-17.

7 Place the folded webbing in the original attaching loop location. Secure the replacement attaching loop by stitching a 5-inch-long three-point-WW-stitch formation. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.


5 IN.
2 IN.
5 1/2 IN.
1/2 IN.
1 IN.
1/16 IN. (TYP)
A
BRIDLE-TO-CANOPY ATTACHING LOOP
CANOPY
A
A
1/16 IN. (TYP)
BRIDLE LINE
1/4 IN.
RADIAL SEAM
CROWN
1 IN.
1/2 IN.
6 IN.
BRIDLE-TO-CANOPY ATTACHING LOOP
1/2 IN.
CANOPY
SECTION A-A
B

AV 107000

A. Loop construction specifics.

B. Loop installation details.

Figure 3–17. Bridle-to-canopy attaching loop replacement details, G-13 24-foot-diameter cargo parachute.

(3) *Crown panel (center and side).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3. Each panel is limited to three darns.

(c) Patching. Patch a hole or tear which exceeds 3/4 inch in length or diameter, using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3, if applicable.

NOTE

The G-13 canopy crown panels may be patched by two methods. One method is by use of cotton balloon coated cloth which is a pressure-sensitive (iron-on) patch material that does not require stitching. The second method of patching requires stitching and the patch material will be of type III 3.8-ounce cotton muslin cloth.

(d) Replacement. Replace a center or side crown panel by fabricating as follows:

1 Place the canopy crown on a repair table with the outside facing up and, as applicable, cut and remove the stitching which extends from the bridle-to-canopy attaching loops into the seams of the canopy crown.

2 Invert the canopy with the inside facing out and center the canopy crown on the table. Smooth the material around the damaged panel.

3 Remove the damaged panel by cutting the panel material on all sides at a point 1/2 inch from the adjacent seams.

4 Fold back the 1/2-inch trimmed edges and baste the edges. Basting will be performed as prescribed in TM 10-1670-201-23/TO 13C-1-41.

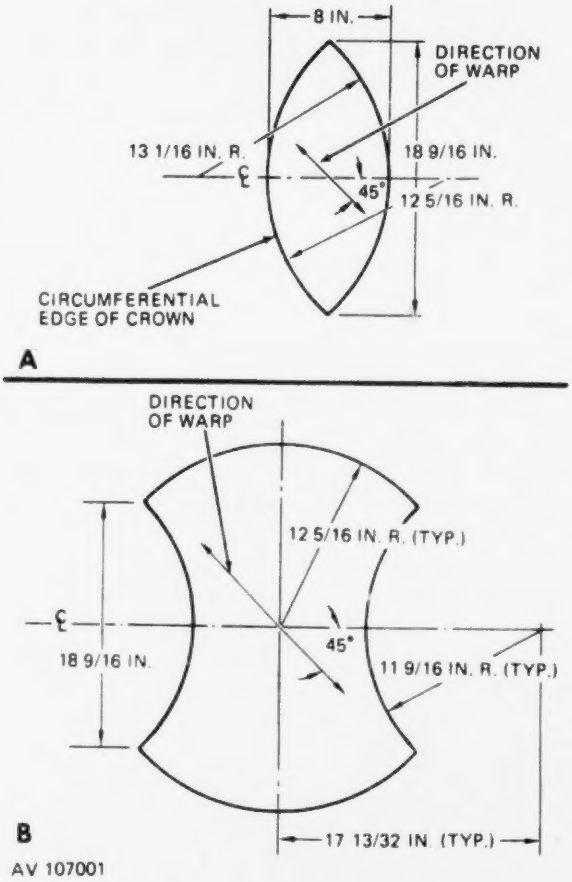
5 Cut a doubled piece of type III 3.8-ounce cotton muslin cloth on bias and trim according to the applicable details in figure 3-18.

6 Make a 1/2-inch turnunder on all edges of the trimmed cloth and baste the folded edges using basting procedures outlined in TM 10-1670-201-23/TO 13C-1-41. Insure the folded edges aline exactly with the outside edges of the original panel location seams.

7 Place the replacement panel material in the original panel location and temporarily secure the material in position using pushpins along the folded edges at 3-inch intervals.

8 Baste the replacement panel in position according to basting procedures outlined in TM 10-1670-201-23/TO 13C-1-41 and remove the pusnpins used in 7 above.

9 Secure the panel by stitching a single row of stitching along the outside edges of all the seams that the replacement panel material covers. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.



A. Side panel. *B. Center panel.*

Figure 3-18. Canopy crown panel pattern details, G-13 24-foot-diameter cargo parachute.

10 Reinvert the canopy to the outside, and trim the replacement panel material, allowing 1/2 inch of turnunder material on all seams.

11 Make a single row of stitching along the outer edges of all the original panel seams (fig. 3-19) according to original stitching details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

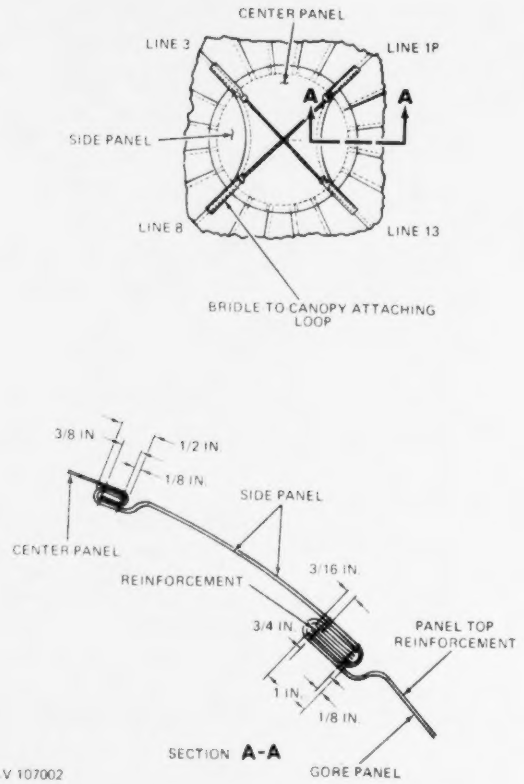


Figure 3–19. Canopy crown panel replacement details, G-13 24-foot-diameter cargo parachute.

12 Remove all basting from the replacement panel and restitch the applicable bridle-to-canopy attaching loops according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(4) *Gore seam reinforcement (short).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable short gore seam reinforcement on the diagonal seams of gore panels 2 and 3 by fabricating as follows:

1 Place the canopy, outside up, on a repair table and smooth the canopy material around the affected reinforcement.

2 Cut the original stitchin and remove the damaged reinforcement from th applicable canopy diagonal seam.

3 Cut a 16-inch length o 9/16-inch-wide, type I cotton webbing and wax the ends.

4 Fold and place the webbing length in the original reinforcement location (fig. 3-20). Secure the reinforcement by stitching two 18-inch-long rows of stitching according to original construction details and figure 3-20. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(5) *Gore panel.*

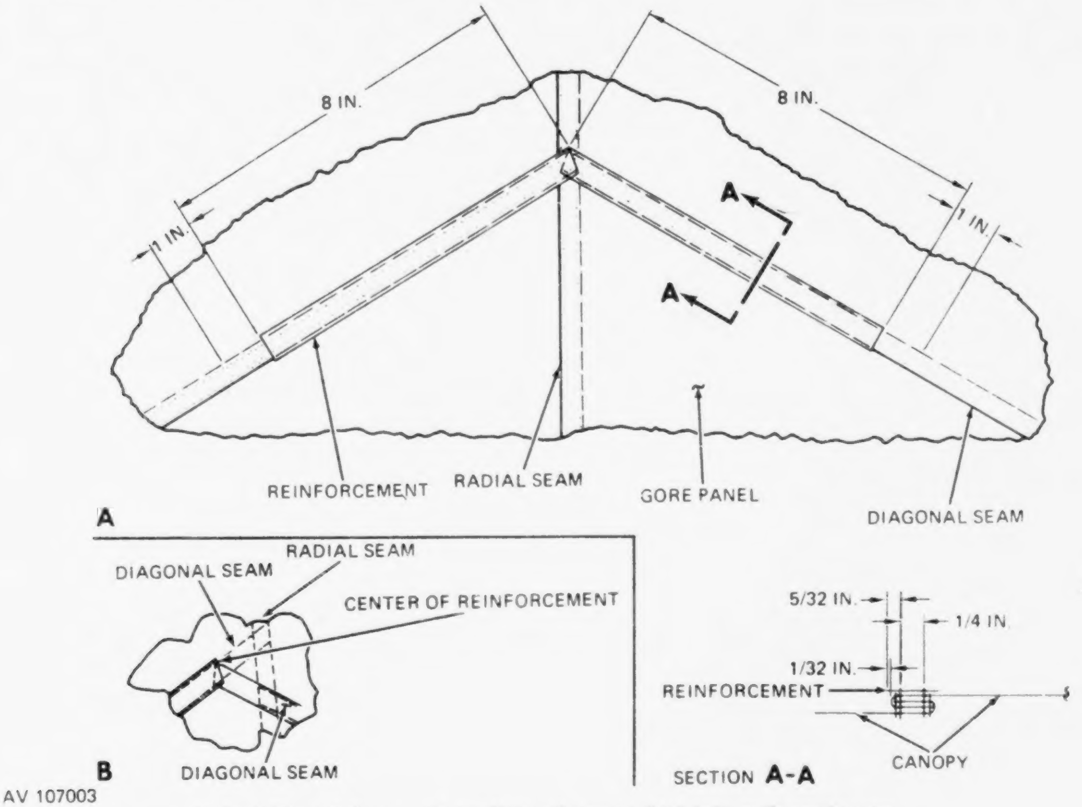
(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter as prescribed in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Patching. Patch a hole or tear which exceeds 3/4 inch according to the limitations and the procedures prescribed in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3, if applicable.

NOTE

The gore panels of the G-13 cargo parachute may be patched by two methods. One method is by use of cotton balloon coated cloth which is a pressure-sensitive (iron-on) patch material that does not require stitching. The second method of patching requires stitching and the patch material will be of type III 3.8-ounce cotton muslin cloth.


8 IN.
8 IN.
1 IN.
1 IN.
A
A
REINFORCEMENT
RADIAL SEAM
GORE PANEL
DIAGONAL SEAM
A
RADIAL SEAM
DIAGONAL SEAM
CENTER OF REINFORCEMENT
B
DIAGONAL SEAM
5/32 IN.
1/4 IN.
1/32 IN.
REINFORCEMENT
CANOPY
SECTION A-A
AV 107003

A. Installing reinforcement on diagonal seams which join at the main seam.
B. Installing reinforcement on diagonal seams which do not join at the main seam.

Figure 3–20. Gore seam reinforcement (short) replacement details, G-13 24-foot-diameter cargo parachute.

(d) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

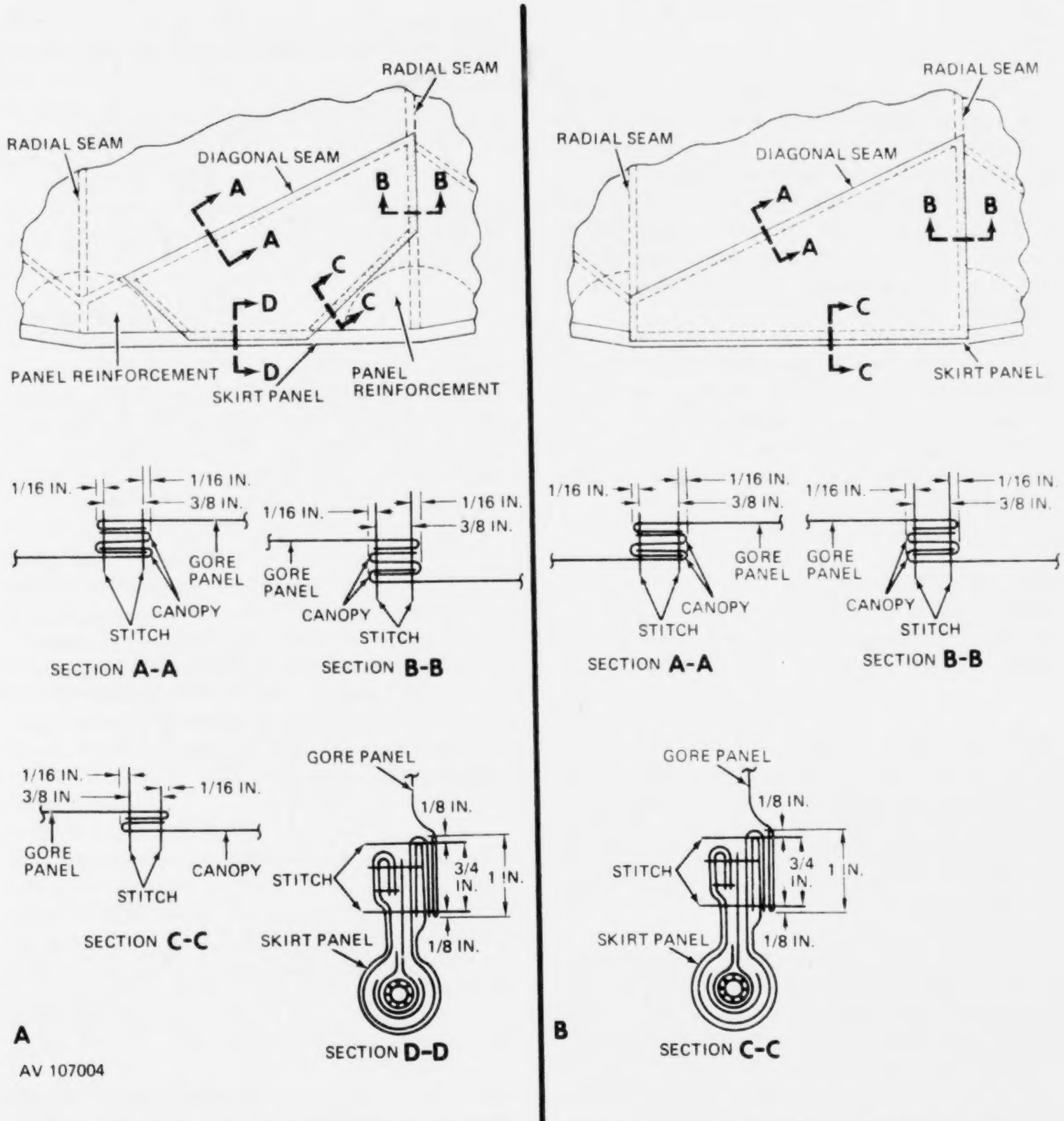
(e) Replacement. Replace a gore panel which is beyond repair by fabricating as follows:

1 Panel 1.

(a) Place the canopy on a repair table and partially invert the canopy to locate the inside of the damaged gore panel to the outside. Smooth the canopy material around the affected gore panel and temporarily secure the adjacent radial seams, diagonal seam, and skirt panel to the table with pushpins.

(b) If the damage does not extend into the two lower corners of the gore panel, remove the original panel material by cutting along the diagonal seam and skirt panel with the side cuts made diagonally across the panel with the warp or the fill. The cuts will be made to permit the original panel two lower corners with panel reinforcements to remain intact. Using the details in A, figure 3-21, insure a suitable amount of original panel edge material remains to preclude the replacement panel from overlapping the radial seam, diagonal seam, or skirt panel upon installation.

(c) If the damage extends into the two lower corners of the gore panel, cut the stitching which secures each of the two panel reinforcements in the affected panel lower corners, and remove the reinforcements. Using the details in B, figure 3-21, cut and remove the original panel material, insuring an amount of original panel edge material remains to preclude the replacement panel from overlapping the adjacent seams upon installation.


RADIAL SEAM
RADIAL SEAM
DIAGONAL SEAM
A
A
B
B
C
C
D
D
PANEL REINFORCEMENT
SKIRT PANEL
PANEL REINFORCEMENT
1/16 IN.
1/16 IN.
3/8 IN.
GORE PANEL
CANOPY
STITCH
SECTION A-A
1/16 IN.
1/16 IN.
3/8 IN.
GORE PANEL
CANOPY
STITCH
SECTION B-B
1/16 IN.
3/8 IN.
1/16 IN.
GORE PANEL
CANOPY
STITCH
SECTION C-C
GORE PANEL
1/8 IN.
STITCH
3/4 IN.
1 IN.
SKIRT PANEL
1/8 IN.
SECTION D-D
A
AV 107004
RADIAL SEAM
RADIAL SEAM
DIAGONAL SEAM
A
A
B
B
C
C
SKIRT PANEL
1/16 IN.
1/16 IN.
3/8 IN.
GORE PANEL
CANOPY
STITCH
SECTION A-A
1/16 IN.
1/16 IN.
3/8 IN.
GORE PANEL
CANOPY
STITCH
SECTION B-B
GORE PANEL
1/8 IN.
STITCH
3/4 IN.
1 IN.
SKIRT PANEL
1/8 IN.
B
SECTION C-C

A. Panel replacement details not including lower corners.

B. Replacement details for entire panel.

Figure 3-21. Gore panel 1 replacement details, G-13 24-foot-diameter cargo parachute.

(d) Using the applicable details in figure 3-21, fold back the raw edges made in (b) or (c) above and baste according to basting procedures outlined in TM 10-1670-201-23/TO 13C-1-41.

(e) Cut a piece of type III, 3.8-ounce cotton muslin cloth 1 inch longer and 2 1/2 inches wider than the original gore panel.

(f) Place the cut material over the original gore panel area and allow the material to extend 1/2 inch beyond each of the radial seams on the sides and above the diagonal seam at the top. The material lower edge should extend beyond the skirt panel upper edge by 2 inches.

(g) Trace the outline of the original panel, including the width of the radial seam(s) as applicable, the diagonal seam, and 1 inch below the skirt panel upper edge. If the panel reinforcements have not been removed diagonally, trace each of the material lower corners 1/2 inch beyond the outer edge of the applicable reinforcement. Trim excess material, as required.

(h) Make a 1/2-inch turnunder on the top and each of the side edges of the replacement panel material. Also, make a 1-inch turnunder on the bottom of the material. Temporarily secure the folded material edges with pushpins.

(i) Baste the replacement panel in the original panel location using basting procedures in TM 10-1670-201-23/TO 13C-1-41. Remove the pushpins used in (h) above.

(j) Secure the replacement panel material by stitching a single row along the outside of all the panel folded edges according to the applicable details in figure 3-21. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Remove the basting made in (d) and (i) above.

(k) Reinvert the canopy to the outside and trim all the raw edges of the replacement panel material along the inside edge of each seam surrounding the replacement panel.

(l) Make a single row of stitching along the inside of all the folded edges of the panel according to the applicable details in figure 3-21. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(m) If applicable, reinstall the panel reinforcements removed in (c) above by restitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

2 Panels 2, 3, and 4.

(a) Place the canopy on a repair table with the damaged gore panel facing up and temporarily secure the panel to the table with pushpins.

(b) On each of the four corners of gore panels 2 and 3, and on the two bottom corners of gore panel 4, cut and remove the stitching which secures each of the 16-inch-long gore seam reinforcements to the damaged gore panel. Fold each reinforcement back and temporarily secure to the adjacent gore panel diagonal seam using pushpins.

(c) Remove the pushpins used in (a) above and partially invert the canopy to locate the inside of the damaged gore panel to the outside. Smooth the canopy material around the affected gore panel and temporarily secure the adjacent radial and diagonal seams, including the reinforcing webbing on the upper edge of panel 4 when applicable, to the table with pushpins.

(d) Remove the original gore panel by cutting the panel material at a point 1/2 inch from the lower diagonal seam, the upper diagonal seam, or the upper diagonal seam reinforcing webbing, if applicable, and each of the two adjacent radial seams. Make a 1/2-inch foldback on each raw edge and baste according to basting procedures outlined in TM 10-1670-201-23/TO 13C-1-41.

(e) Cut a piece of type III, 3.8-ounce cotton muslin cloth 6 inches wider and 6 inches longer than the original gore panel.

(f) Center the cut material over the original gore panel location and trace the outline of the original panel, including the width of each adjacent radial seam, the upper diagonal seam, or, if applicable, the upper diagonal seam reinforcing webbing.

(g) Turn under each edge of the cut material and aline the folded edges with the outside edges of the seams and reinforcing webbing, if applicable, specified in (f) above. Temporarily secure the material in position with pushpins.

(h) Baste the replacement panel in the original panel location using basting procedures outlined in TM 10-1670-201-23/TO 13C-1-41. Remove the pushpins used in (g) above.

(i) Secure the replacement panel by stitching according to the procedures in paragraphs *(e)1*(j) through (l) above and the details in figure 3-22. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Insure the basting made in (e) and (h) above is removed before reinverting the canopy.

(j) As applicable, reinstall the gore seam reinforcements removed in (b) above in each of the original locations by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

3 Panel 5.

(a) Place the canopy on a repair table with the damaged panel facing up and temporarily secure the panel to the table with pushpins.

(b) If applicable, remove the bridle-to-canopy attaching loop from the adjacent radial seam by cutting the stitching which secures the loop to the canopy.

(c) Cut and remove the stitching which secures each of the lateral lengths of reinforcing webbing at the near center of the gore panel. If either length of webbing is damaged, remove the webbing by cutting the webbing material at each of the inside edges of the adjacent radial seams.

(d) Remove the pushpins used in (a) above and invert the canopy to locate the inside of the damaged gore panel to the outside. Smooth the canopy material around the affected gore panel and temporarily secure the adjacent radial seams, the crown seam, and the lower diagonal seam, including the reinforcing webbing on the diagonal seam, to the table with pushpins.

(e) Remove the original gore panel by cutting the double thickness of panel material at a point 1/2 inch from the crown seam, each of the adjacent radial seams, and the lower diagonal seam reinforcing webbing. Insure the two lateral reinforcing webbing lengths are not damaged during the cutting process. Make a 1/2-inch foldback on each raw edge and baste according to basting procedures in TM 10-1670-201-23/TO 13C-1-41.

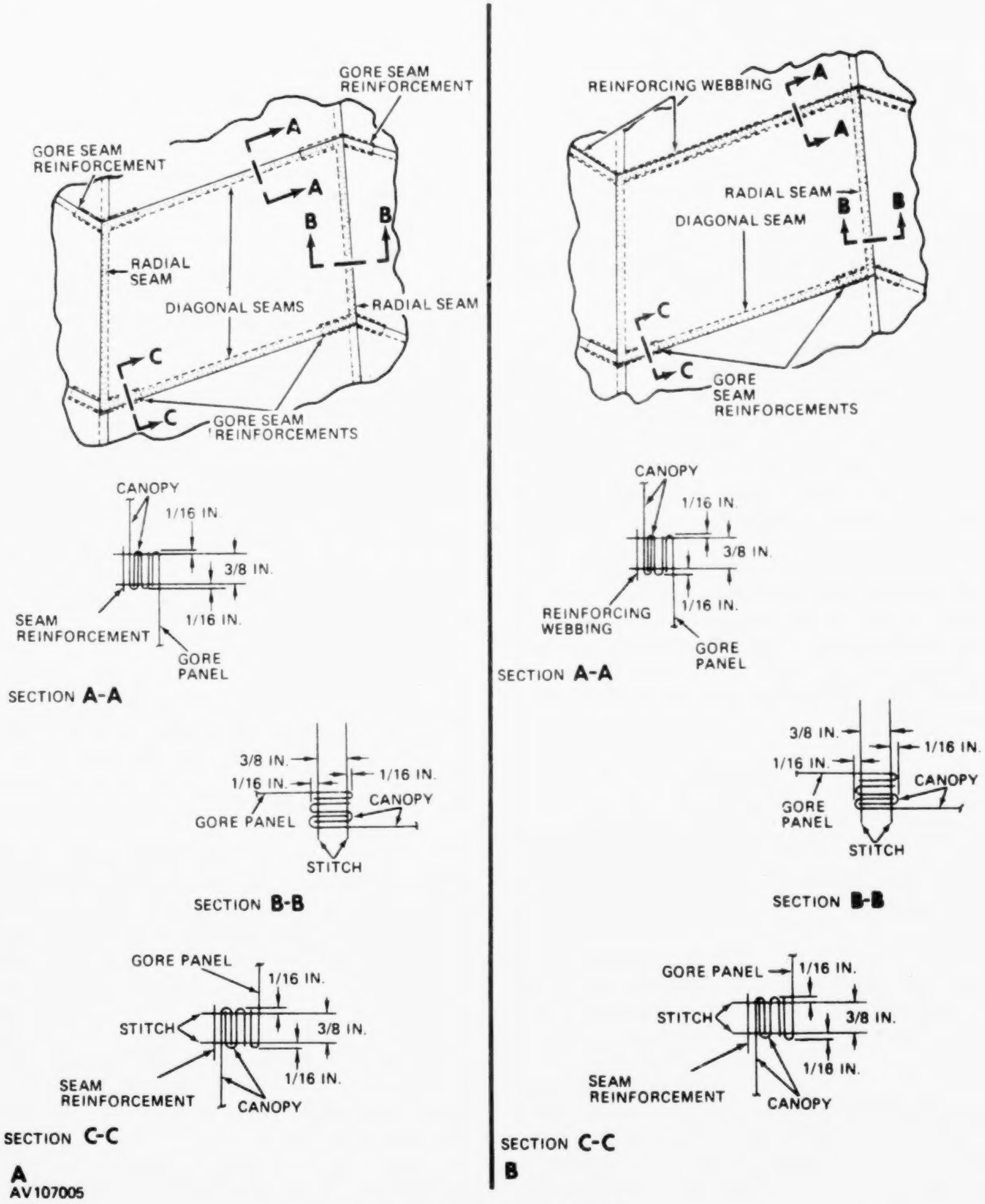
(f) Cut a doubled piece of type III, 3.8-ounce cotton muslin cloth 6 inches wider and 6 inches longer than the original gore panel.

(g) Center the doubled material over the original gore panel location and trace the outline of the original panel including the width of each of the adjacent radial seams, the crown seam, and the lower diagonal seam reinforcing webbing.

(h) Turn under each edge of the doubled material and aline the folded edges with the outside edges of the seams and reinforcing webbing specified in (g) above. Temporarily secure the material in position with pushpins.

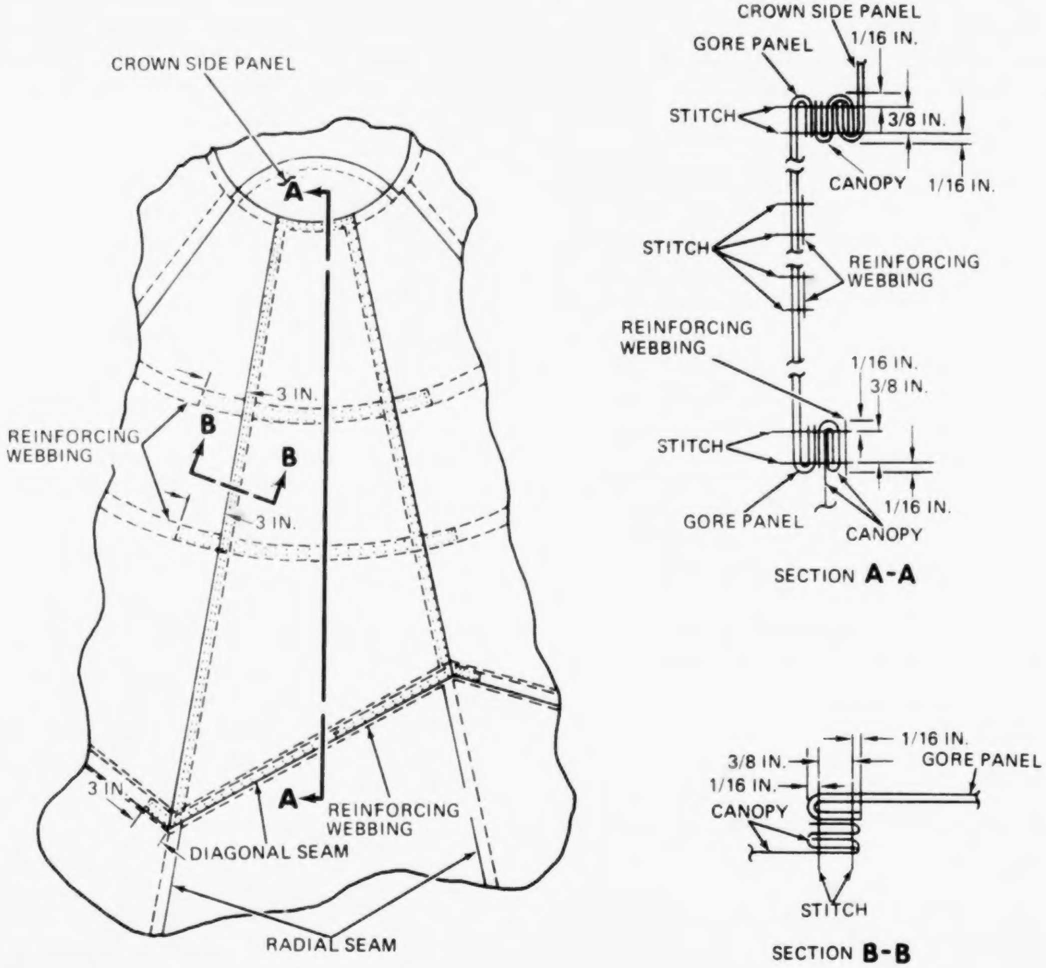
(i) Baste the replacement panel in the original panel location using basting procedures outlined in TM 10-1670-201-23/TO 13C-1-41. Remove the pushpins used in (h) above.

(j) Secure the replacement panel by stitching according to the procedures in paragraphs *(e)1*(j) through (l) above and


GORE SEAM
REINFORCEMENT
GORE SEAM
REINFORCEMENT
A
A
B
B
RADIAL
SEAM
DIAGONAL SEAMS
RADIAL SEAM
C
C
GORE SEAM
REINFORCEMENTS
CANOPY
1/16 IN.
3/8 IN.
1/16 IN.
SEAM
REINFORCEMENT
GORE
PANEL
SECTION A-A
3/8 IN.
1/16 IN.
1/16 IN.
CANOPY
GORE PANEL
STITCH
SECTION B-B
GORE PANEL
1/16 IN.
STITCH
3/8 IN.
1/16 IN.
SEAM
REINFORCEMENT
CANOPY
SECTION C-C
A
AV107005
REINFORCING WEBBING
A
A
RADIAL SEAM
B
B
DIAGONAL SEAM
C
C
GORE
SEAM
REINFORCEMENTS
CANOPY
1/16 IN.
3/8 IN.
1/16 IN.
REINFORCING
WEBBING
GORE
PANEL
SECTION A-A
3/8 IN.
1/16 IN.
1/16 IN.
CANOPY
GORE
PANEL
STITCH
SECTION B-B
GORE PANEL
1/16 IN.
STITCH
3/8 IN.
1/18 IN.
SEAM
REINFORCEMENT
CANOPY
SECTION C-C
B

A. Details for gore panels 2 and 3.
B. Details for gore panel 4.

Figure 3–22. Replacement details for gore panels 2, 3, and 4, G-13 24-foot-diameter cargo parachute.


CROWN SIDE PANEL
A
3 IN.
REINFORCING WEBBING
B
B
3 IN.
3 IN.
A
REINFORCING WEBBING
DIAGONAL SEAM
RADIAL SEAM
CROWN SIDE PANEL
GORE PANEL
1/16 IN.
STITCH
3/8 IN.
CANOPY
1/16 IN.
STITCH
REINFORCING WEBBING
REINFORCING WEBBING
1/16 IN.
3/8 IN.
STITCH
GORE PANEL
1/16 IN.
CANOPY
SECTION A-A
1/16 IN.
3/8 IN.
GORE PANEL
1/16 IN.
CANOPY
STITCH
SECTION B-B

AV 107006

Figure 3–23. Replacement details for gore panel 5, G–13 24-foot-diameter cargo parachute.

the details in figure 3-23. When stitching the lower diagonal seam reinforcing webbing, overstitch 3 inches beyond the outer edge of each adjacent radial seam. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Insure the basting made in (e) and (i) above is removed before reinverting the canopy.

(k) Secure each of the two lateral lengths of reinforcement webbing to the replacement gore panel by stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Overstitch 3 inches beyond the outer edge of each adjacent radial seam. If a reinforcement webbing length has been removed as outlined in (c) above, make a splice between the remaining original webbing ends using the procedures in paragraph (8) below.

(l) As applicable, reattach the bridle-to-canopy attaching loop removed in (b) above by stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 Multiple panels. If two or more adjacent panels in a gore require replacement, cut and remove the original panels and the joining diagonal seam(s). Using the applicable procedures in paragraphs *1* through *3* above, prepare the replacement panels and join the panels by stitching according to original diagonal seam(s) construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Install the replacement panels in accordance with paragraph *1* through *3* above, as applicable.

(6) *Panel reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable panel reinforcement by fabricating as follows:

1 Place the canopy on a repair table with the damaged panel reinforcement facing up.

2 On the skirt panel below the affected panel reinforcement, cut and remove the stitching to a point 1/2 inch below the skirt panel upper edge, extending laterally 1/2 inch beyond the applicable radial seam and the damaged reinforcement outer edge.

3 Cut and remove the stitching on the reinforcement outer edge from 1/2 inch below the skirt panel upper edge to the inside edge of the applicable radial seam.

4 Remove the original reinforcement by cutting the fabric laterally from the outer edge to the radial seam inside edge, 1/2 inch below the skirt panel upper edge, and vertically along the radial seam inside edge.

5 Using original pattern details, cut a piece of type III, 3.8-ounce cotton muslin cloth 1/2 inch larger on all edges than the removed reinforcement material.

6 Make a 1/2-inch turnunder on all edges of the cut material and bast folded edges in accordance with basting p dures outlined in TM 10-1670-201-23/TO 13C-1-41.

7 Place the formed forcement in the original reinforcement location with the vertical folded edge alined with the outside edge of the radial seam and the lower folded edge extending into the skirt panel. Temporarily secure the reinforcement in position with pushpins.

8 Baste the reinforcement panel to the radial seam, the gore panel, and the skirt panel in accordance with basting procedures outlined in TM 10-1670-201-23/TO 13C-1-41. Remove the pushpins used in *7* above.

9 Secure the panel reinforcement by stitching according to the details in figure 3-24 and original construction details. Overstitch each of the stitching ends by 1 inch. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the spe in table 3-3.

(7) *Rat line.*

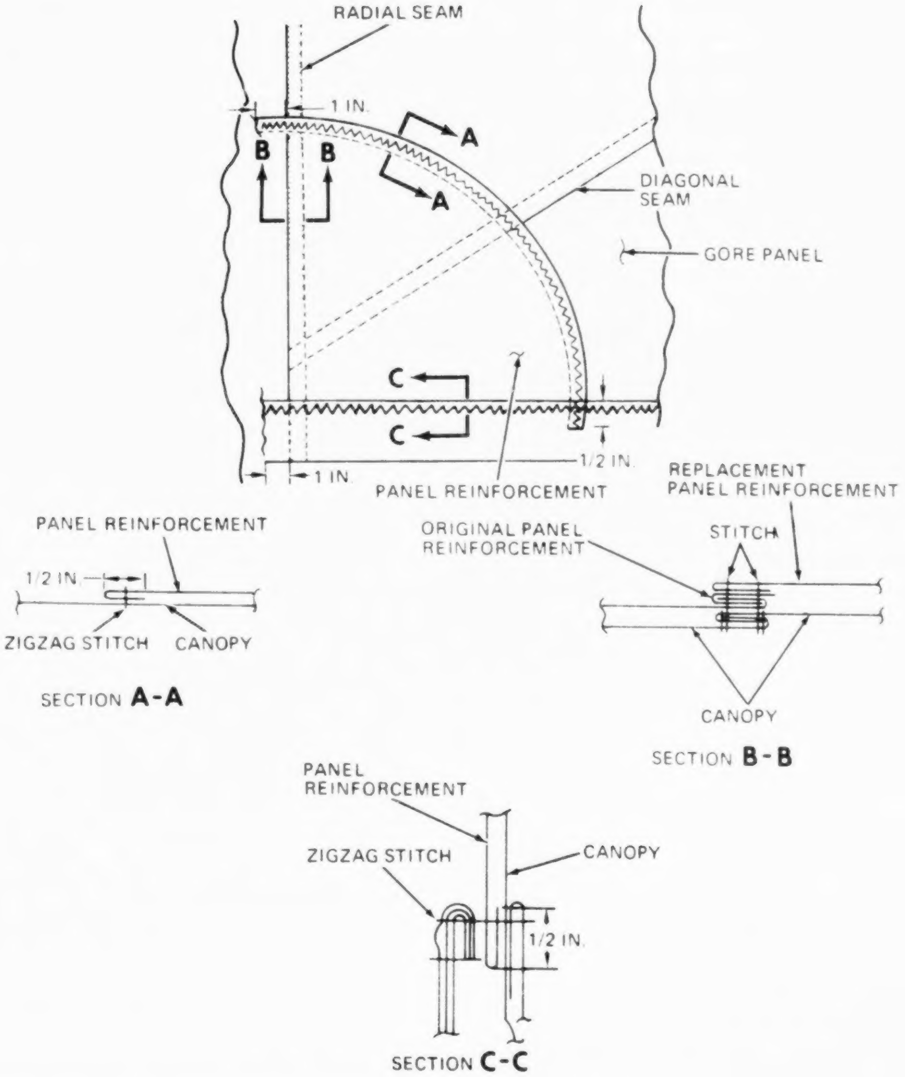
(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable rat line by fabricating as follows:

1 Pull the eyes of the damaged rat line through the rat line holes to the outside of the skirt panel and remove the rat line from the skirt hanger line by cutting each of eyes. Further, slide the suspension line attaching loop from one end of the cut rat line length.

CAUTION

Do not cut or break the threads in the type II coreless rayon cord while fabricating a replacement rat line.


RADIAL SEAM
1 IN.
A
A
B
B
DIAGONAL SEAM
GORE PANEL
C
C
1/2 IN.
1 IN.
PANEL REINFORCEMENT
REPLACEMENT PANEL REINFORCEMENT
PANEL REINFORCEMENT
1/2 IN.
ZIGZAG STITCH
CANOPY
SECTION A-A
ORIGINAL PANEL REINFORCEMENT
STITCH
CANOPY
SECTION B-B
PANEL REINFORCEMENT
ZIGZAG STITCH
CANOPY
1/2 IN.
SECTION C-C

AV 107007

Figure 3–24. Panel reinforcement replacement details, G-13 24-foot-diameter cargo parachute.

2 Cut a 14 1/2-inch length of type II coreless rayon cord and taper-cut each end by 1/2 inch.

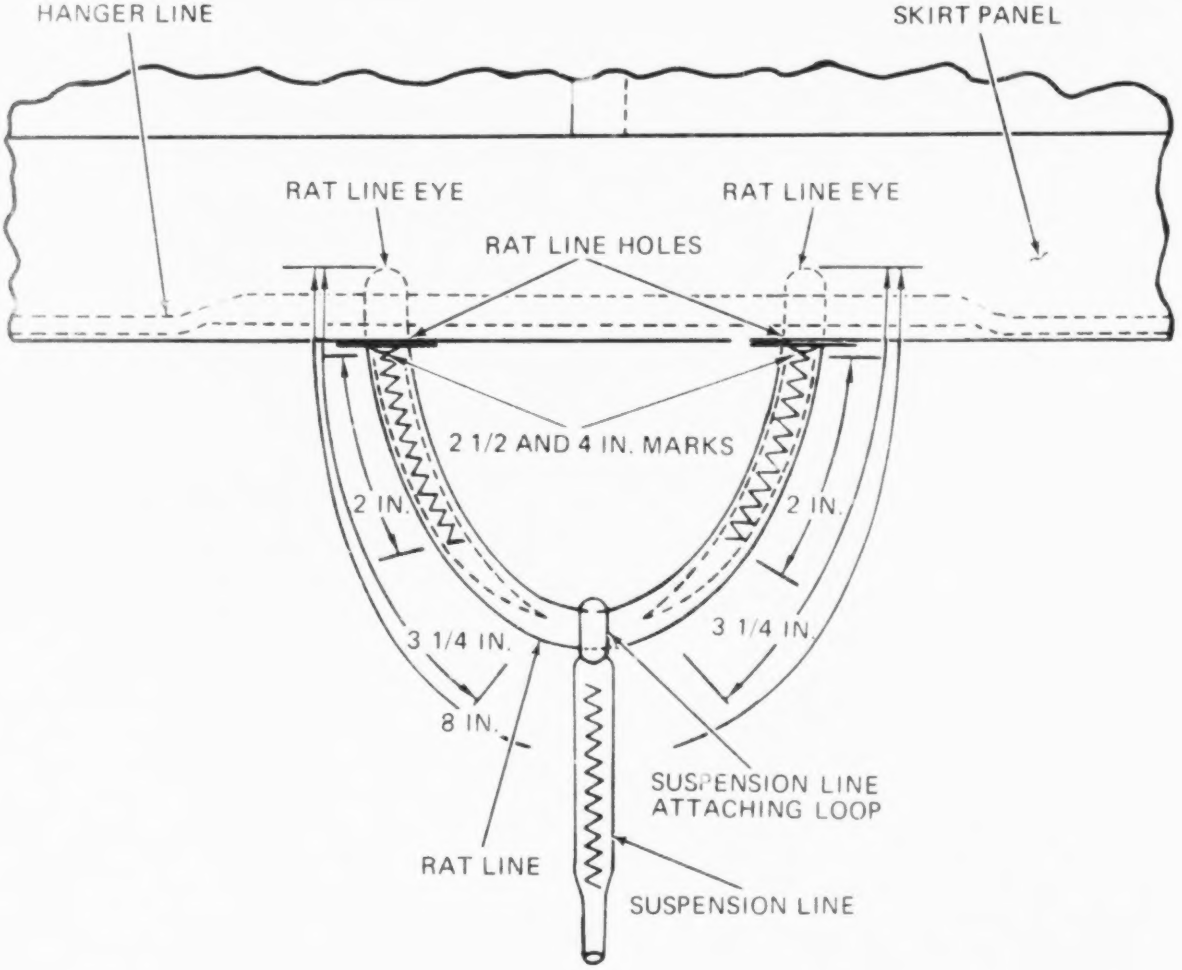
3 Using a suitable marking aid, mark the cord length at points 2 1/2, 4, and 8 inches from each end.

4 Center the cord length in the suspension line attaching loop removed in *1* above.

5 Pass 3 inches of one cord end around the skirt hanger line to the outside to begin forming one rat line eye.

6 Insert a suitable splicing aid at the 8-inch mark and work the aid through the cord casing to the outside at the 4-inch mark.

7 Attach the tapered cord end to the splicing aid. Pull the splicing aid back into the cord casing at the 4-inch mark until the


HANGER LINE
SKIRT PANEL
RAT LINE EYE
RAT LINE EYE
RAT LINE HOLES
2 1/2 AND 4 IN. MARKS
2 IN.
2 IN.
3 1/4 IN.
3 1/4 IN.
8 IN.
SUSPENSION LINE ATTACHING LOOP
RAT LINE
SUSPENSION LINE

AV 107008

Figure 3–25. Rat line installation details, G-13 24-foot-diameter cargo parachute

2 1/2- and the 4-inch marks are alined. Work the splicing aid back through the cord casing to the outside at the 8-inch mark.

8 Remove the tapered cord end from the splicing aid and while holding the cord at the alined marks, stretch the cord length between the alined marks and the 8-inch mark to allow the tapered end to recede into the cord casing (fig. 3-25).

9 Beginning at the alined 2 1/2- and 4-inch marks, secure the rat line end tight around the hanger line by stitching a 1/8-inch-wide by 2-inch long row of double-throw zigzag stitching, using the specifics in table 3-3.

10 Using the procedures in 5 through 9 above, attach the opposite end of the cord length to the skirt hanger line to complete the installation of the rat line.

(8) *Reinforcing webbing.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Reinforcing webbing located on gore panels 4 and 5 may be spliced one time as follows.

1 Place the canopy on a repair table with the affected area of reinforcing webbing facing up.

2 Cut a length of 9/16-inch-wide, type I cotton webbing long enough to extend 6 inches beyond each side of the damaged area and wax the ends.

3 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation the length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(9) *Skirt panel.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Patching. Patch a hole or tear using cotton balloon coated cloth which is a pressure-sensitive (iron-on) patching method prescribed in TM 10-1670-201-23/TO 13C-1-41.

(10) *Skirt hesitator.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable skirt hesitator by fabricating as follows:

1 Place the canopy on a repair table with the original skirt hesitator facing up.

2 Remove the damaged skirt hesitator by cutting the stitching which secures the hesitator webbing to the radial seam.

NOTE

In some instances the original skirt hesitator may be located on radial seam 11. However, when the hesitator is to be replaced, the replacement item will be attached to radial seam 10.

3 Cut a 24 1/2-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

4 Form and secure the end loops on the skirt hesitator by folding each of the webbing ends and stitching according to original construction details and the details in A, figure 3-26. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

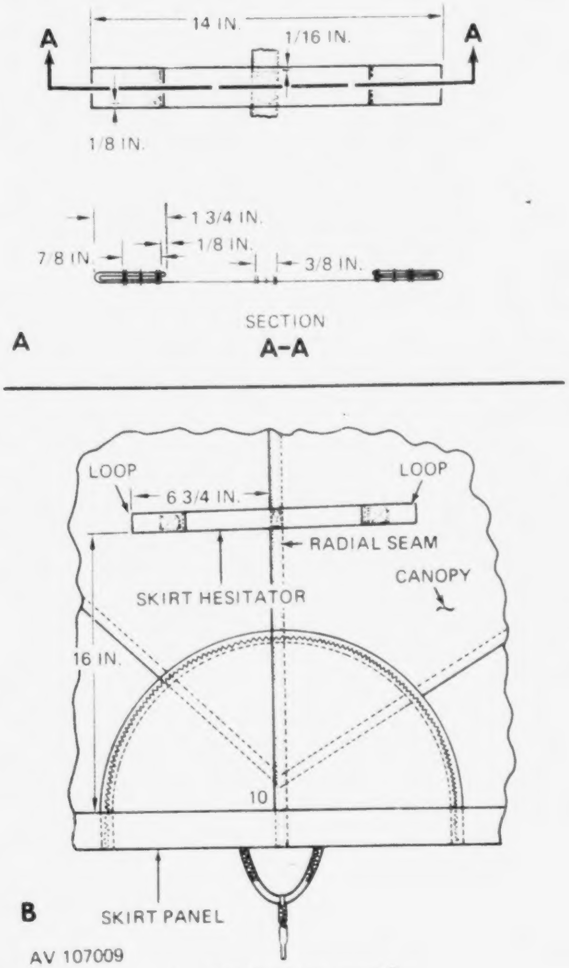
5 Attach the replacement skirt hesitator on radial seam 10 by stitching a single-X-box-stitch formation according to the details in B, figure 3-26. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(11) *Suspension line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Retaping a suspension line loop. As required, remove the original tape length(s) wrapped around the suspension line loop(s) at the riser assembly and retape the loop(s) according to original construction details using a suitable length of 1-inch-wide, type I pressure-sensitive tape cut or split to a 1/2-inch width.

(c) Re-serving a suspension line loop. Cut and remove the original suspension line loop serving material and re-serve the loop with a 1/2-inch-long overhand french spiral according to



A. Construction specifics.
B. Installation details.

Figure 3–26. Skirt hesitator replacement details, G-13 24-foot-diameter cargo parachute.

original construction details using a suitable length of ticket No. 5 cotton thread.

(d) Splicing. Splice a damaged suspension line according to limitations and procedures in TM 10-1670-201-23/TO 13C-1-41, using type I coreless rayon cord as splice material.

(e) Replacement. Replace an unserviceable suspension line by fabricating as follows:

1 Place the canopy and suspension lines on a packing table and connect the bridle loop to the vent attaching hook.

2 Trace the damaged suspension line from one rat line to the suspension line loop and to the opposite rat line.

3 Cut and remove the serving material and pressure-sensitive tape from the suspension line loop which contains the affected suspension line.

4 Remove the damaged suspension line from the canopy by cutting each of the suspension line end attaching loops at the applicable rat lines.

CAUTION

Do not cut or break the threads in the type II coreless rayon cord while fabricating a replacement suspension line.

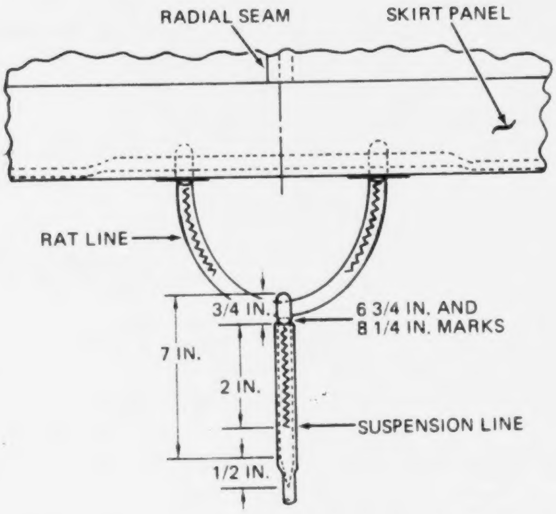
5 Using a spool of type II coreless rayon cord, taper-cut the running end by 1/2 inch. In addition, using a suitable marking aid, mark the running end at points 6 3/4, 8 1/4, and 16 inches back from the tapered end.

6 Pass 7 1/2 inches of the cord running end around one of the applicable original rat lines.

7 Insert a suitable splicing aid into the cord length at the 16-inch mark and work the aid through the cord casing to the outside at the 8 1/4-inch mark.

8 Attach the tapered cord end to the splicing aid. Pull the splicing aid back into the cord casing at the 8 1/4-inch mark. Work the splicing aid back through the cord casing until the 6 3/4- and 8 1/4-inch marks are alined.

9 Holding the cord firmly at the alined marks, withdraw the splicing aid from



AV 107010

Figure 3–27. Attaching a suspension line to a rat line, G-13 24-foot-diameter cargo parachute.

the cord casing at the 16-inch mark. Remove the tapered cord end from the splicing aid and stretch the cord length to allow the tapered end to recede into the cord casing (fig. 3-27).

10 Trace the replacement suspension line cord and an adjacent suspension line from the point of attachment to the rat line, through the riser assembly suspension line attaching loop, to the opposite rat line, and allow both lines to settle on the packing table under equal tension.

11 Using a suitable marking aid, mark the replacement suspension line cord at a point 8 1/4 inches beyond the location at which the cord length intersects with the free rat line.

12 Cut the cord length from the spool at the 8 1/4-inch mark made in *11* above and also taper-cut the cord running end by 1/2 inch.

13 Using a suitable marking aid, mark the running end of the replacement suspension line as outlined in *5* above.

14 Using the procedures in *6* through *9* above, attach the marked running end of the replacement suspension line to the remaining rat line from which the original suspension line was removed.

15 Disconnect the canopy bridle loop from the vent attaching hook and remove the canopy and suspension lines to a sewing area.

16 Beginning on one end of the replacement suspension line at the alined 6 3/4- and 8 1/4-inch marks, secure the line end by stitching a 1/8-inch-wide by 2-inch-long row of double-throw zigzag stitching according to the details in figure 3-27, using the specifics in table 3-3. Secure the opposite line end in the same manner.

17 Re-form the suspension line loop at the riser assembly (fig. 3-28) and tape the suspension line loop according to original construction details, using 1-inch-wide, type I pressure-sensitive tape cut or split to a 1/2-inch width.

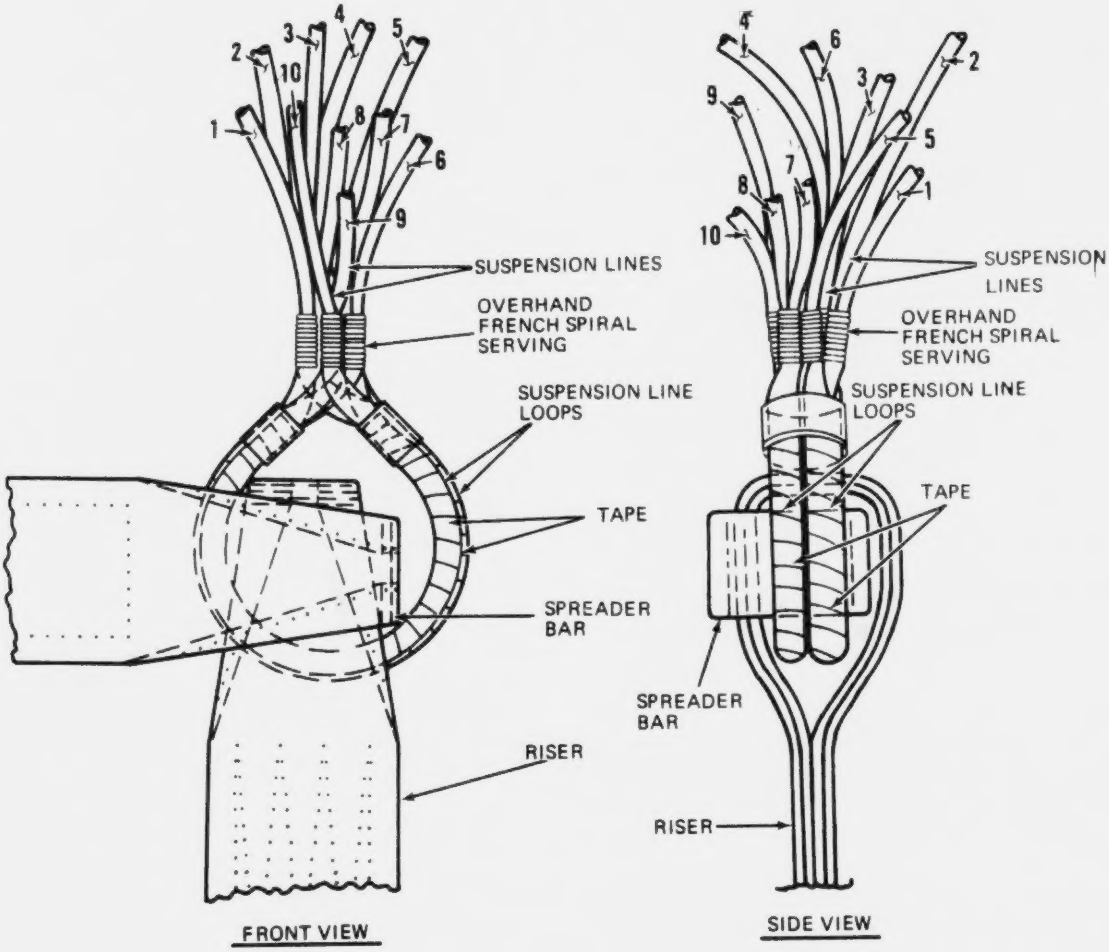
18 At a point immediately above the formed and taped suspension line loop, serve the suspension lines with a 1/2-inch-long overhand french spiral using a suitable length of ticket No. 5 cotton thread.

(12) *Riser assembly.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Retacking. Retack a clevis attaching loop or a parachute inspection data pocket (log record pocket) according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using two turns double, ticket No. 5 waxed cotton thread. Secure the tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/4 inch.

(c) Restencil. As required, restencil riser assembly identification markings


1
2
3
4
5
6
7
8
9
10
SUSPENSION LINES
OVERHAND FRENCH SPIRAL SERVING
SUSPENSION LINE LOOPS
TAPE
SPREADER BAR
RISER
FRONT VIEW
SIDE VIEW

AV 107011

Figure 3–28. Suspension line loop construction details, G-13 24-foot-diameter cargo parachute.

using procedures in TM 10-1670-201-23/TO 13C-1-41.

(d) Replacing a riser clevis safety pin. Replace an unserviceable or missing riser clevis safety pin by fabrication using the procedures in paragraph 3-7*c*(1).

(e) Replacing a riser clevis pin retaining cord. Replace a damaged or missing riser clevis pin retaining cord by fabricating using the procedures in paragraph 3-7*c*(1).

(f) Replacing a riser clevis. Replace an unserviceable or missing riser clevis with a serviceable item from stock.

(g) Replacing a parachute inspection data pocket. Replace a missing or unserviceable parachute inspection data pocket with a serviceable item from stock.

(h) Replacing a spreader bar. An unserviceable riser assembly spreader bar will be replaced by fabricating as follows:

1 Remove the original spreader bar from the riser assembly by cutting each of the spreader bar end loops.

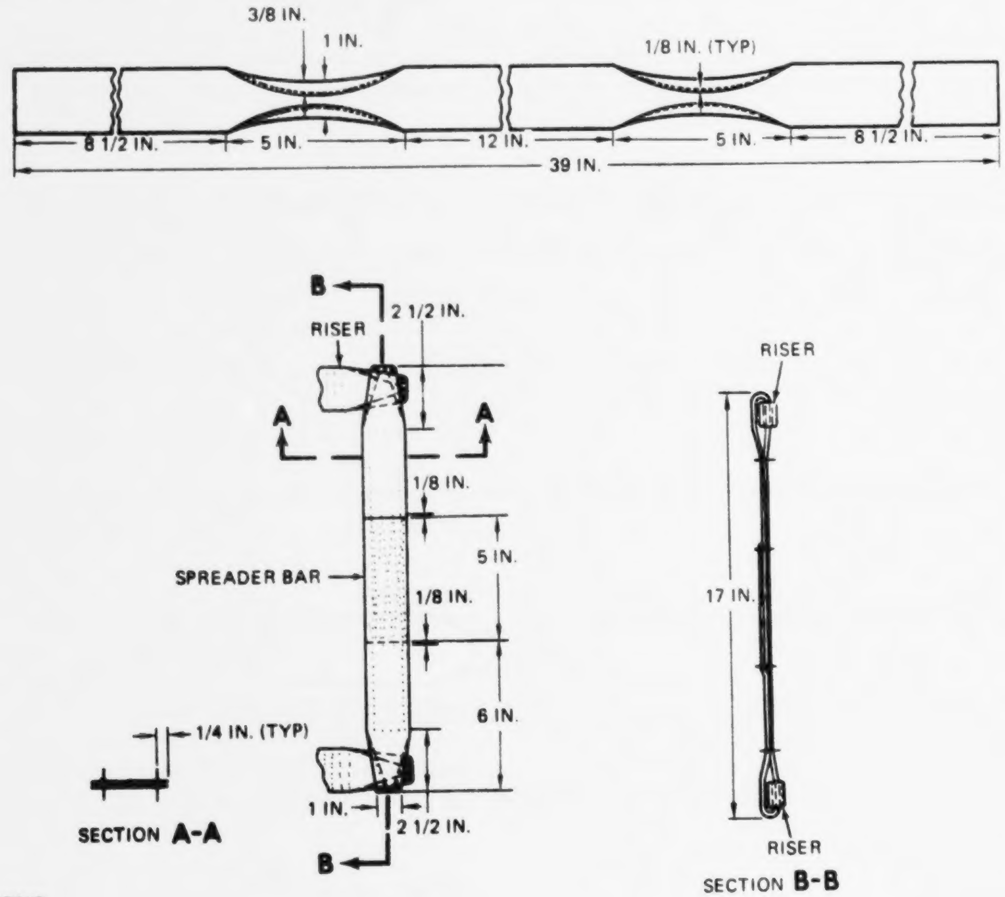
2 Cut a 39-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

3 Using a suitable marking aid, mark the webbing length at points 8 1/2 and 13 inches from each end.

4 Between the marks made on each end of the webbing length, roll the webbing edges in by 3/8 inch toward the center of the webbing width (fig. 3-29). Secure each rolled edge by stitching a 5-inch-long single row of stitching according to the details in figure 3-29. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Center each of the spreader bar rolled edge areas in the riser assembly suspension line attaching loops according to original construction details and make an 11-inch-long foldback on each webbing end. Overlap the webbing ends by 5 inches.

6 Secure the folded spreader bar webbing by stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.


3/8 IN.
1 IN.
1/8 IN. (TYP)
8 1/2 IN.
5 IN.
12 IN.
5 IN.
8 1/2 IN.
39 IN.
B
2 1/2 IN.
RISER
A
A
1/8 IN.
5 IN.
SPREADER BAR
1/8 IN.
6 IN.
1/4 IN. (TYP)
SECTION A-A
1 IN.
2 1/2 IN.
B
RISER
17 IN.
RISER
SECTION B-B

AV 107012

Figure 3–29. Spreader bar replacement details, G-13 24-foot-diameter cargo parachute.

(i) Replacing a riser. Replace a damaged riser by fabricating as follows:

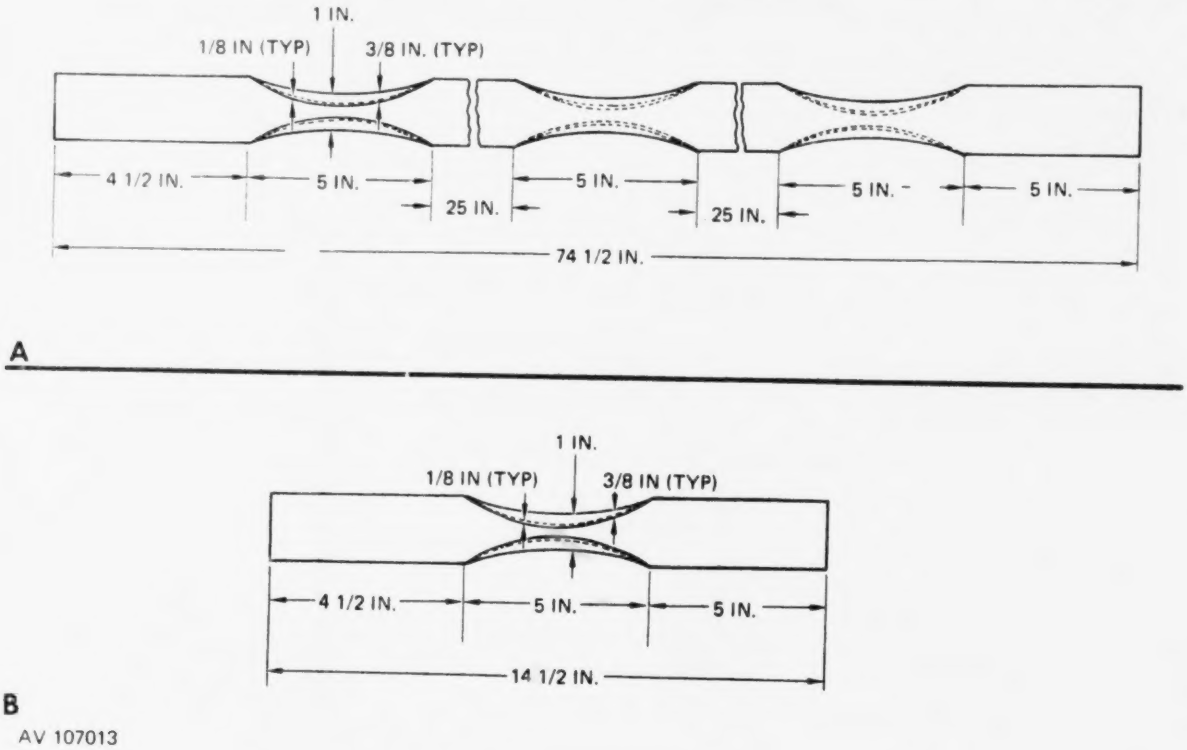
1 Remove the affected riser from the spreader bar and the applicable suspension line loop by cutting the attaching loop on the riser upper end.

2 Cut the tacking on the riser lower end loop, remove the riser clevis, and acertain the serviceability of the clevis. If serviceable, retain the original riser clevis for further use. However, should the clevis be damaged, repair or replace the clevis according to paragraphs *(d)* through *(f)*, as applicable.

3 If the left riser is to be replaced, remove the parachute inspection data pocket (log record pocket) by cutting the tacking which secures the pocket to the riser and retain the pocket for further use, if serviceable.

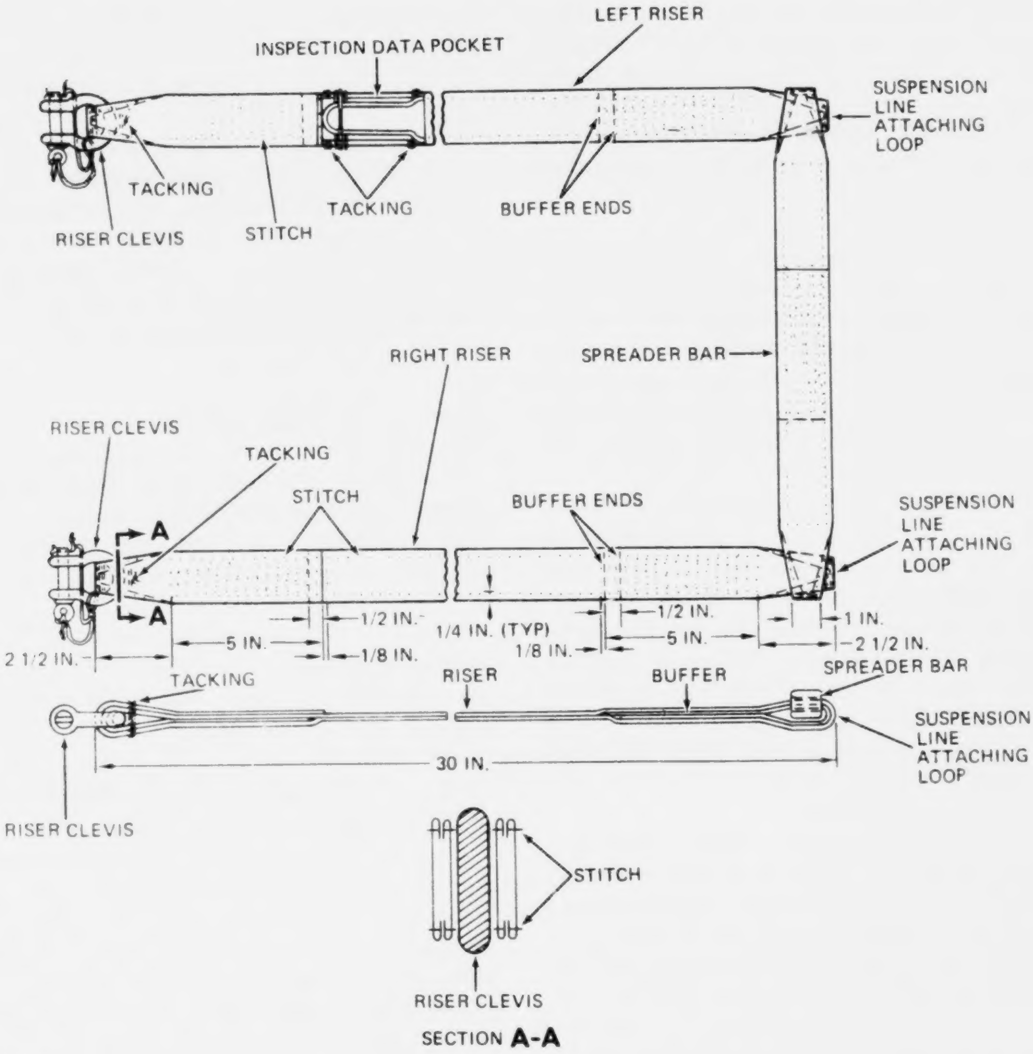
4 Cut a 74 1/2-inch and a 14 1/2-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends. The 74 1/2-inch webbing length will be used as a riser replacement, while the 14 1/2-inch webbing length is to be used as a replacement buffer at the point of riser attachment to the spreader bar and the suspension line loop.

5 Using the details in figure 3-30, roll the edges of both lengths of webbing inn by 3/8 inch toward the center of the webbing width. Secure each rolled edge by stitching a 5-inch-long single row of stitching. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.



A. Riser construction details.
B. Buffer construction details.

Figure 3–30. Riser and buffer replacement details, G-13 24-foot-diameter cargo parachute.


LEFT RISER
INSPECTION DATA POCKET
SUSPENSION LINE ATTACHING LOOP
TACKING
TACKING
BUFFER ENDS
RISER CLEVIS
STITCH
RIGHT RISER
SPREADER BAR
RISER CLEVIS
TACKING
STITCH
BUFFER ENDS
SUSPENSION LINE ATTACHING LOOP
A
A
1/2 IN.
1/4 IN. (TYP)
1/2 IN.
1 IN.
5 IN.
1/8 IN.
1/8 IN.
5 IN.
2 1/2 IN.
2 1/2 IN.
TACKING
RISER
BUFFER
SPREADER BAR
SUSPENSION LINE ATTACHING LOOP
30 IN.
RISER CLEVIS
STITCH
RISER CLEVIS
SECTION A-A

AV 107014

Figure 3–31. Riser replacement details, G-13 24-foot-diameter cargo parachute.

6 Pass one end of the riser webbing length through the spreader bar and the suspension line loop and form a suspension line attaching loop in the riser webbing according to the details in figure 3-31.

7 Insert and route the buffer webbing inside of the riser suspension line attaching loop, allowing the top buffer end to overlap the bottom end by 1/2 inch. Beginning at a point 2 1/2 inches below the end of the formed suspension line attaching loop, secure the riser and .buffer webbing by stitching a 5-inch-long four-point-WW-stitch formation. Overstitch the lower end of the stitch formation by 1/8 inch. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

8 Using the details in figure 3-31, form the riser clevis attaching loop on the lower end of the riser length. Beginning at a point 2 1/2 inches above the end of the formed loop, secure the riser webbing by stitching a 5-inch-long four-point-WW-stitch formation. Overstitch the upper end of the stitch formation by 1/8 inch. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

9 Beginning at a point 2 1/2 inches from the end of one riser end loop, stitch a 25-inch-long single row of stitching, 1/8 inch in, along each edge of the riser webbing to a point 2 1/2 inches from the end of the opposite end loop. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

10 Install a serviceable riser clevis in the clevis attaching loop on the riser lower end and secure the clevis in the loop by handtacking the loop webbing at a point immediately above the clevis body. Make the tacking using two turns double, ticket No. 5 waxed cotton thread. Secure the tacking ends with a suregon's knot and lock knot. Trim tie ends to 1/4 inch.

11 As applicable, position a serviceable inspection data pocket (log record pocket) at a point 7 5/8 inches above the riser clevis attaching loop and handtack the pocket to the riser webbing as prescribed in TM 10-1670-201-23/TO 13C-1-41.

d. Replacement. An unserviceable G-13 24-foot-diameter cargo parachute canopy will only be replaced as prescribed by Appendix C.

3–11. The Parachute Pack

a. Inspection. Inspect a pack used with the G-13 24-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a G-13 cargo parachute pack by cleaning the pack material in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a G-13 cargo parachute pack which requires cutting of stitching or an original part, insure that adjacent pack material is not damaged during the cutting process.

(1) *Edge binding.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a flap edge binding as follows:

NOTE

Two splices may be made on the edge binding of each flap on the G-13 cargo parachute pack.

1 Cut a length of 3/4-inch-wide, type III cotton tape long enough to extend 1 inch beyond each side of the damaged area and wax the ends.

2 Center the tape length over the damaged area and secure the splice by making two rows of stitching the full length of the splice material according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(2) *Pack closing loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged pack closing loop on a pack closing flap by fabricating as follows:

1 Remove the original pack closing loop by cutting the loop material at a point adjacent to the upper end of each stitch formation located on each side of the loop.

2 Cut a 12-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

3 Make a fold at the webbing length center to form a loop according to original construction details and position the folded material in the original loop location, allowing the running ends to extend over the original stitched loop ends.

4 At a point 1 inch below the top of the formed loop, secure each running end of the replacement loop by stitching a 5-inch-long two-point-WW-stitch formation according to the details in figure 3-32. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(3) *Pack tiedown strap loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

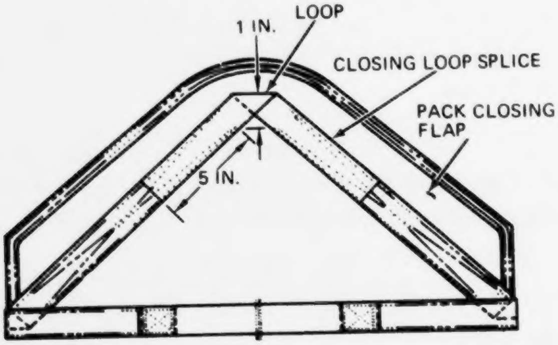


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Figure 3–32. Pack closing loop replacement details, G-13 24-foot-diameter cargo parachute.

(b) Replacement. Replace a damaged pack tiedown strap loop at the pack bottom by fabricating as follows:

1 Remove the original loop by cutting the loop along the outer edge of the pack bottom panels.

2 On each side of the original loop location, cut and remove 1 1/2 inches of the pack bottom panel edge stitching. Further cut and remove the stitching which secures the original loop material to the pack outside bottom panel.

3 Cut an 8 1/4-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

4 Double the webbing length and at the original loop location, insert the alined webbing ends under the original loop material, between the pack outside bottom panel and the inside bottom panel. Allow the folded end of the webbing to extend 1 1/2 inches beyond the outer edge of the bottom panels to form a loop.

5 Secure the replacement loop between the pack bottom panels by stitching the bottom outside panel with a 2 5/8-inch-long single-X-box-stitch formation according to the details in figure 3-33. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Restitch the pack bottom panel edge stitching removed in *2* above according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(4) *Pack tiedown strap.* The only maintenance function performed on a pack tiedown strap is to replace a damaged or missing strap by fabricating as follows:

(a) If applicable, remove the original tiedown strap from the pack tiedown strap loop by untieing the knot which secures the strap length to the loop.

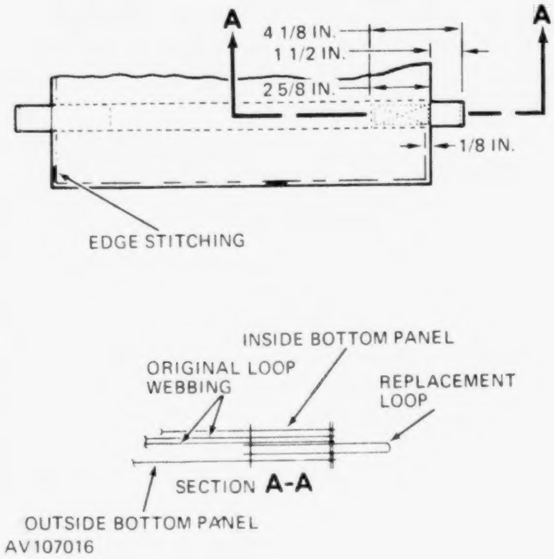

Figure 3–33. Pack tiedown strap loop replacement details, G-13 24-foot-diameter cargo parachute.

(b) Cut a 44-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

(c) Center the webbing length in the original tiedown strap loop and secure the webbing to the loop with a square knot (fig. 3-34). Insure the strap running ends are of equal length after making the knot.

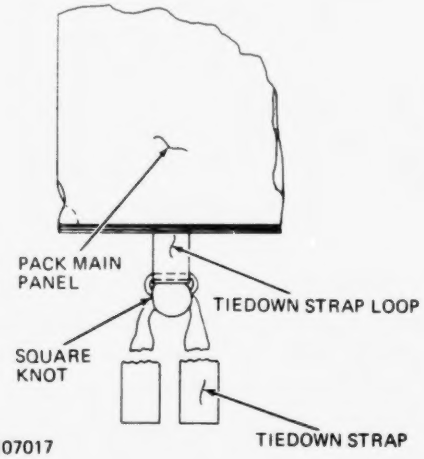

Figure 3–34. Pack tiedown strap attaching details. G-13 24-foot-diameter cargo parachute.

(5) *Panels and flaps.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter according to TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. There is no limit to the number of times G-13 cargo parachute pack panels or flaps may be darned or patched.

(c) Patching. Patch a hole or tear which exceeds 3/4 inch in length or diameter, but does not extend beyond 3/4 inch into an adjoining seam or reinforcement. Patching will be performed in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3 and type III, 12.29-ounce cotton duck cloth.

(d) Restencil. As required, restencil identification marks using procedures in TM 10-1670-201-23/TO 13C-1-41.

(6) *Static line retaining strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged static line retaining strap by fabricating as follows:

1 Remove the original static line retaining strap by cutting the stitching which secures the strap to the pack reinforcing strap.

2 Cut a 10 1/2-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

3 Make a 1 1/4-inch-long foldback on each end of the webbing length and position the webbing in the original strap location with foldback ends facing down.

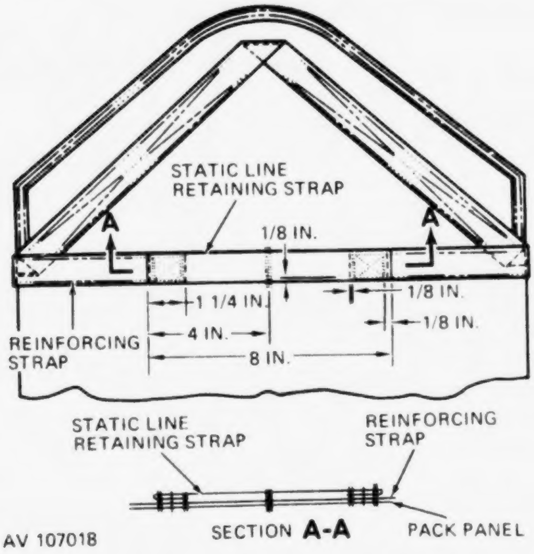

Figure 3–35. Pack static line retaining strap attaching details, G-13 24-foot-diameter cargo parachute.

4 Secure each folded end of the strap to the pack retaining strap by stitching a 1-inch-long single-X-box-stitch formation with two double ends according to the details in figure 3-35. In addition, secure the center of the replacement strap to the pack reinforcing strap by making three rows of stitching laterally across the webbing width. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. Replace an unserviceable G-13 parachute pack with a serviceable item from stock.

3–12. The Static Line

a. Inspection. Inspect a 15 1/2-foot-long static line used with the G-13 24-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 15 1/2-foot-long static line by cleaning the static line webbing and associated components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Webbing and attaching loops.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Riser clevis.* Repair or replace a static line riser clevis as prescribed in paragraph 3-7*c*(1).

d. Replacement. Replace an unserviceable 15 1/2-foot-long static line with a serviceable item from stock.

3–13. The Static Line Parachute Drogue

a. Inspection. Inspect a static line parachute drogue used with the G-13 24-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a static line parachute drogue by cleaning the drogue material in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Drogue body and vanes.*

(a) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. There is no limit to the number of times a static line parachute drogue may be darned.

(b) Restencil. As required, restencil identification marks using procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Attaching loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

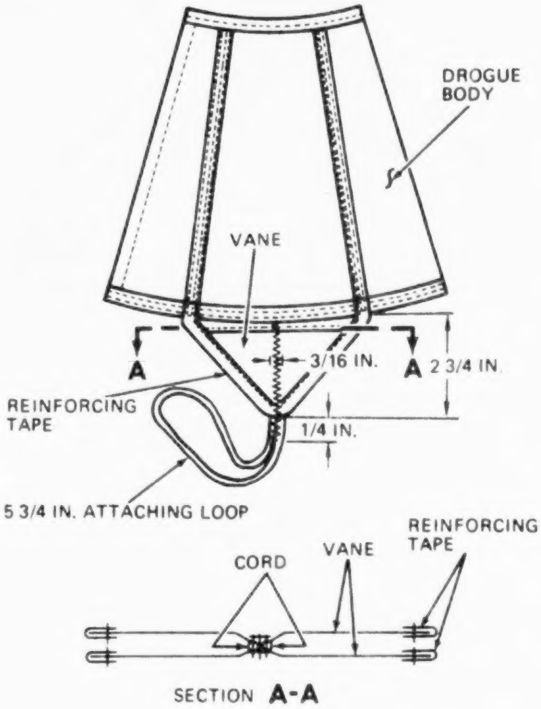

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Figure 3–36. Drogue attaching loop replacement details, G-13 24-foot-diameter cargo parachute.

(b) Replacement. Replace a damaged attaching loop on a static line parachute drogue by fabricating as follows:

CAUTION

When cutting the stitching on an original attaching loop of a static line parachute drogue, insure the drogue body or vane material is not damaged during the cutting process.

1 Remove the original attaching loop by cutting the stitching which secures the loop ends to the drogue vanes.

2 Cut a 17-inch length of type III nylon cord and lightly sear the ends.

3 Double the cord length and position the alined cord ends in the location of the original loop ends between the vanes.

4 Secure the positioned cord ends and the drogue vanes together by stitching a 3/16-inch-wide by 2 3/4-inch-long row of double-throw zigzag stitching according to original construction details and the details in figure 3-36, using the specifics in table 3-3. Extend the stitch row beyond the lower edge of the vane reinforcing tape into the double cord length by 1/4 inch to form a 5 3/4-inch-long loop in the cord.

(3) *Reinforcing tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A reinforcing tape may be spliced one time as follows:

1 Cut a length of 3/4-inch-wide, type III nylon tape long enough to extend 1 inch beyond each side of the damaged area and wax the ends.

2 Center the tape length over the damaged area and secure the splice by making a single row of stitching along each edge of the tape according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. Replace an unserviceable static line parachute drogue with a serviceable item from stock.

Section VI. THE 26-FOOT-DIAMETER HIGH-VELOCITY CARGO PARACHUTE

3–14. The Parachute Canopy.

a. Inspection. Inspect a 26-foot-diameter cargo parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 26-foot-diameter high-velocity cargo parachute canopy by cleaning and drying the canopy and associated canopy components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 26-foot-diameter high-velocity cargo parachute canopy which requires removal of stitching or an original part by cutting, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Bridle loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bridle loop by fabricating as follows:

1 Cut a 10-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

2 Pass one end of the webbing through all the canopy vent lines and join both webbing ends together above the vent lines with a 2-inch-long overlap (fig. 3-37).

3 Beginning at a point 1/4 inch back from one overlapped webbing end, secure the overlapped ends together with a 1 1/2-inch-long single-X-box-stitch formation, stitched to a point 1/4 inch back from the opposite overlapped webbing end. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

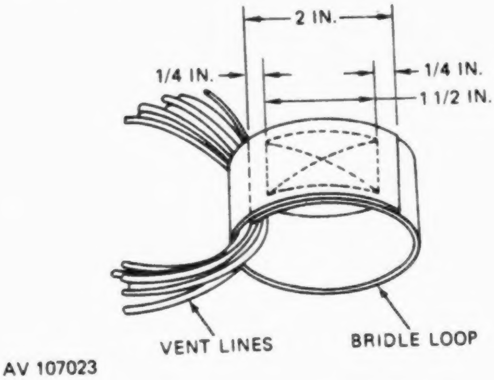


Figure 3–37. Bridle loop replacement details, 26-foot-diameter high-velocity cargo parachute.

4 Remove the original bridle loop from the canopy vent lines by cutting the loop webbing.

(2) *Vent line.*

(a) Restitching. Restitch broken or loose stitching according to original constructions details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable vent line by fabrication, using a 26-inch length of type II coreless nylon cord, the procedures in paragraph 3-7*c*(8)*(b)* and the specifics in table 3-3.

(3) *Gore section.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear in a gore section which does not exceed 3/4 inch in length or diameter as prescribed in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. There is no limit to the number of darns which may be made on a gore section of the 26-foot-diameter high-velocity cargo parachute canopy.

(c) Patching. There is no limit as to the size or number of patches that may be made on a gore section of the 26-foot-diameter high-velocity cargo parachute canopy. Patch a hole or tear in a gore section that exceeds 3/4 inch in length or diameter using either the pressure-sensitive (iron-on) patching method outlined in TM 10-1670-201-23/TO 13C-1-41 or the stitching method, including material, that is detailed in paragraph 3-7*c*(2)*(c)*.

NOTE

The gore sections of the 26-foot-diameter high-velocity cargo parachute canopy may be patched by two methods. One method is by use of cotton balloon coated cloth which is a pressure-sensitive (iron-on) patch material that does not require stitching. The second method of patching requires stitching, and the patch material will be of type III 3.8-ounce cotton muslin cloth.

(d) Restencil. If required, restencil identification marks, using procedures in TM 10-1670-201-23/TO 13C-1-41.

(e) Replacement. A gore section which is damaged beyond repair will be replaced by fabricating as follows:

1 Gore section 1. Fabricate and install using the procedures and material prescribed in paragraph 3-7*c*(2)*(e)1*, and the specifics in table 3-3.

2 Gore section 2 through 7. Fabricate and install using the procedures and material prescribed in paragraph 3-7*c*(2)*(e)2*, and the specifics in table 3-3.

3 Gore section 8. Fabricate and install using the procedures and material prescribed in paragraph 3-7*c*(2)*(e)3*, and the specifics in table 3-3.

(4) *Skirt reinforcement tape (lower lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a skirt reinforcement tape according to lower lateral band splicing procedures in TM 10-1670-201-23/TO 13C-1-41, using 3/4-inch-wide, type III nylon tape and the specifics in table 3-3.

(5) *Radial tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A radial tape may be spliced an unlimited number of times as follows:

1 Cut a length of 3/4-inch-wide, type III nylon tape long enough to extend 4 inches beyond each side of the damaged area and sear the ends.

2 Center the tape length over the damaged area and secure the splice by stitching a box-stitch formation along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(6) *Suspension line.*

(a) Restitching. Restitch broken or loose stitching on the end loops of a suspen-

sion line according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing A suspension line may be spliced one time as follows:

1 Cut a length of type II coreless nylon cord long enough to extend 3 inches beyond each side of the damaged area and wax the ends.

2 Center the cord length over the damaged area. Secure the splice by stitching a 1/8-inch-wide row of double-throw zigzag stitching the full length of the splice, extending the stitching 1/2 inch beyond each end of the splice material. Stitching will be made using the specifics in table 3-3.

(c) Replacement. Replace an unserviceable suspension line by fabricating as follows:

1 Place the canopy assembly in proper layout on a repair table.

2 Apply partial tension to the suspension lines and trace the defective suspension line from the riser to the suspension line attaching loop at the canopy skirt. Upon completion of line tracing, release line tension.

3 Remove the original suspension line from the canopy and the applicable riser by cutting the formed loops located on each end of the suspension line.

4 Cut a 27-foot length of type II coreless nylon cord and taper-cut each end by 1/2 inch.

5 On one end of the cord length, mark the cord at points 4 1/2, 6 1/2, and 11 inches from the nearest tapered end using a suitable marking aid.

6 Pass 5 3/4 inches of the marked cord through the original suspension line attaching loop on the canopy skirt.

7 Insert a suitable splicing aid into the cord casing at the 11-inch mark and work the splicing aid end up through the cord casing to the outside at the 6 1/2-inch mark.

8 Attach the cord marked tapered end to the splicing aid and pull the splicing aid back into and down through the cord casing until the 4 1/2- and 6 1/2-inch marks are alined. Hold the alined marks together and pull the splicing aid down and to the outside at the 11-inch mark.

9 Remove the tapered cord end from the splicing aid and while holding the alined 4 1/2- and 6 1/2-inch marks together, pull the cord at a point below the 11-inch mark to allow the tapered cord end to withdraw into the cord casing.

10 Beginning at a point 1/2 inch below the alined 4 1/2- and 6 1/2-inch marks, secure the formed loop by stitching a 1/8-inch-wide by 2-inch-long row of double-throw zigzag stitching according to the details in A, figure 3-38, using the specifics in table 3-3.

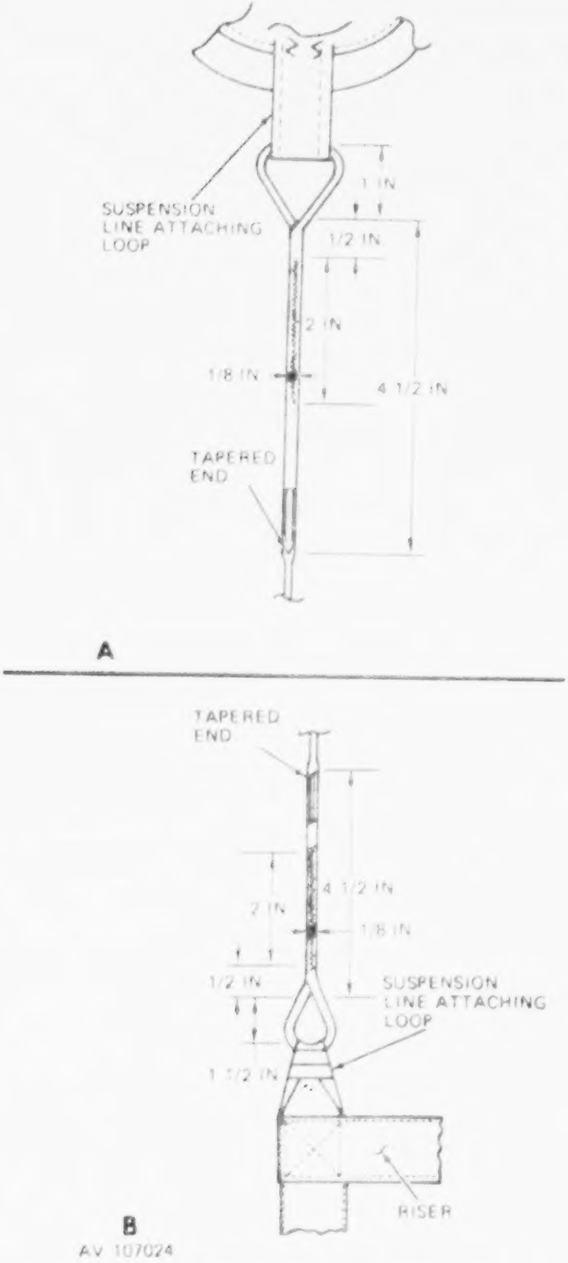
11 On the running end of the cord length, mark the cord at points 4 1/2, 7 1/2, and 12 inches from the tapered end.

12 Trace the replacement suspension line from the canopy skirt down to the applicable riser suspension line attaching loop.

13 Apply tension to the replacement line equal to that of an adjacent suspension line to ascertain that the marks made on the replacement line are located correctly.

14 Release tension on the suspension lines and attach the replacement line to the applicable attaching loop on the riser (B) by repeating the procedures in *6* through *10* above, using the 4 1/2-, 7 1/2-, and 12-inch marks made in *11* above. The suspension line finished length should measure 26 feet, plus or minus 2 inches.

(7) *Suspension line attaching loop.*



A. Attaching a suspension line at the canopy skirt.
B. Attaching a suspension line to a riser.

Figure 3-38. Suspension line replacement details, 26-foot-diameter high-velocity cargo parachute.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable suspension line attaching loop by fabrication using the procedures and material outlined in paragraph 3-7*c(7)(b)*. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(8) *Pocket band.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable pocket band by fabrication using the procedures and material prescribed in paragraph 3-7*c(9)(b)*, and the specifics in table 3-3.

(9) *Riser.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Retaping. When required, retape the rolled portion of a suspension line attaching loop at the top of a riser strap with five turns of 1-inch-wide, type I pressure-sensitive tape. However, prior to retaping, insure the remains of all the original tape have been removed.

(c) Restencil. As required, restencil identification markings using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(d) Splicing. Each of the riser straps and the spreader may be spliced one time using the following procedures:

NOTE

Splicing will be performed on a left riser strap when the damaged area extends into the parachute inspection data pocket (log record pocket). When this situation occurs, a prefabricated log record pocket will be installed in this location in accordance with procedures outlined in TM 10-1670-201-23.

1 Cut a length of 1 23/32-inch-wide, type VIII nylon webbing long enough to extend 4 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure each end of the splice with a 3-inch-long three-point-WW-stitch formation made 1/8 inch in from each side edge of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(e) Replacement. Replace an unserviceable individual riser strap, a spreader, or the entire riser assembly by fabricating as follows:

NOTE

> Prior to disconnecting a riser strap from the suspension lines, temporarily secure the applicable suspension line group to prevent disarrangement by passing a suitable length of 1/4-inch-wide, type I cotton webbing through the loops on the lower end of the suspension lines and tieing the webbing ends together.

1 Left riser strap.

(a) Disconnect the riser strap from the suspension lines by cutting the two suspension line attaching loops at the strap top. Insure the suspension lines are not damaged during the cutting process. Also insure the two groups of suspension lines are separated.

(b) Cut and remove the stitching which secures the spreader webbing around the riser strap and remove the strap from between the spreader webbing plies. Also, remove the parachute inspection data record (log record) from the record pocket on the riser strap and retain the record for further use, if serviceable.

(c) Cut a 71 1/2-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

(d) Using a suitable marking aid, mark the webbing length at points 6 inches from one end and 5 1/2 inches from the opposite end.

(e) On each side of the 6- and 5 1/2-inch marks, roll 2 inches of the webbing edges in to the center of the webbing width (fig. 3-39). Secure each rolled edge by stitching a 4-inch-long row of stitching according to original construction details. Also make a row of stitching laterally across the webbing width at each end of the rolled edges. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(f) Tape each of the 4-inch-long rolled edge areas with five turns of 1-inch-wide, type I pressure-sensitive tape.

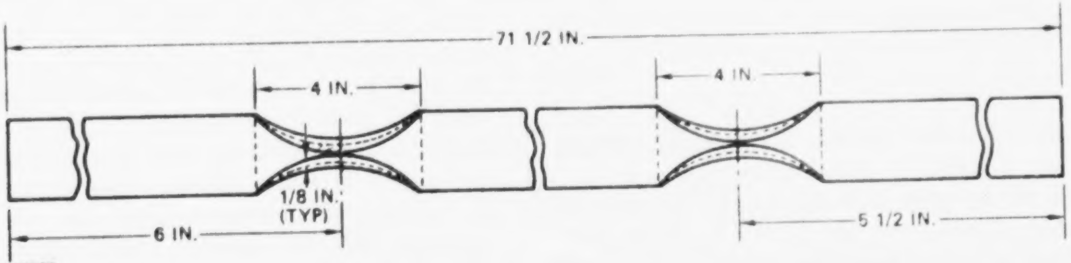


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Figure 3–39. Construction details for riser suspension line attaching loops, 26-foot-diameter high-velocity cargo parachute.

(g) Invert the webbing length with the rolled edges facing down. Using a suitable marking aid, mark the webbing at points 31 inches from each end.

(h) Cut a 9 1/2-inch length of 1 3/4-inch-wide, type VIII cotton webbing for use as a buffer and wax the ends.

(i) Place the webbing length between the two marks made in (g) above and secure the webbing to the riser strap by stitching a 9 1/2-inch-long row of stitching, 1/8-inch in from each webbing side edge, according to original construction details and the details in figure 3-40. Stitching will be made in accordance with TM 10-1670-201-23/T0 13C-1-41, using the specifics in table 3-3.

(j) Form the riser strap suspension line attaching loops by passing each end of the riser strap through the end loops of the original suspension line groups according to original attachment details and center each of the strap taped rolled edges in the applicable end loops. Further, fold the strap ends as shown in figure 3-40, allowing a 1/2-inch overlap on one end.

(k) Beginning at a point 2 inches below the tops of the formed strap suspension line attaching loops, secure the riser strap plies together by stitching according to original construction details and the details in figure 3-40. Insure the parachute inspection data pocket (log record pocket) is formed between the strap plies by omitting 3 1/2 inches of stitching down along the strap outer edge, beginning at a point 11 inches above the lower end of the strap clevis attaching loop. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(l) Pass the strap running end down between the spreader webbing plies to a point 2 inches below the strap top. Secure the spreader webbing plies to the strap by stitching according to the details in figure 3-40. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Remove the temporary tie made on the lower end loops of the suspension line group.

(m) Stencil the parachute inspection data pocket (log record pocket) identification markings on the riser straps according to original stenciling details, using the procedures in TM 10-1670-201-23/TO 13C-1-41. Reinstall the parachute inspection data record (log record), if serviceable, in the strap record pocket in accordance with TM 10-1670-201-23/TO 13C-1-41.

2 Right riser strap. Replace a right riser strap using the procedures in paragraph *1* above. However, details for forming the parachute inspection data pocket (log record pocket) do not apply to the right riser strap. In addition, only the riser identification markings will be stenciled on the right riser strap. The stenciling will be performed according to original stenciling details, using the procedures in TM 10-1670-201-23/TO 13C-1-41.

3 Spreader.

(a) Cut and remove the stitching which secures the spreader webbing around each of the riser straps. Remove the spreader from the riser assembly by cutting the spreader webbing.

(b) Cut a 31 3/4-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

(c) Fold the webbing length around each of the riser straps according to original construction details and make a 1 3/4-inch overlap of the webbing ends at the center between the two riser straps. Secure the spreader webbing plies together and also attach the webbing in the original location on each riser strap by stitching according to the details in figure 3-40. Using the same details, secure the overlapped spreader webbing ends by stitching a 1 1/2-inch-wide single-X-box-stitch formation. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

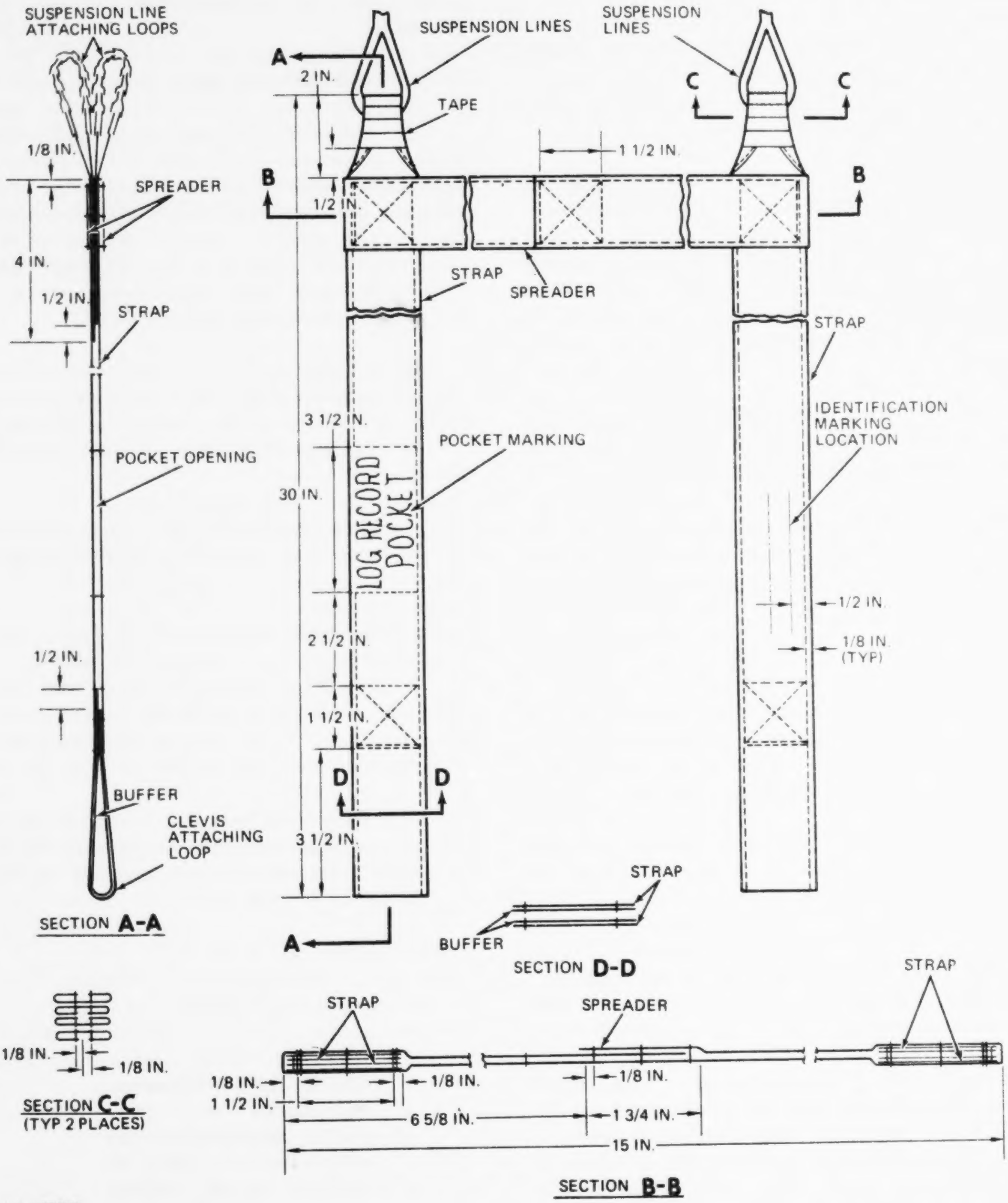
SUSPENSION LINE ATTACHING LOOPS
1/8 IN.
SPREADER
4 IN.
1/2 IN.
STRAP
POCKET OPENING
1/2 IN.
BUFFER
CLEVIS ATTACHING LOOP
SECTION A-A
A
SUSPENSION LINES
2 IN.
TAPE
B
1/2 IN.
SUSPENSION LINES
C
C
1 1/2 IN.
B
STRAP
SPREADER
STRAP
3 1/2 IN.
POCKET MARKING
30 IN.
LOG RECORD POCKET
IDENTIFICATION MARKING LOCATION
1/2 IN.
2 1/2 IN.
1/8 IN. (TYP)
1 1/2 IN.
D
D
3 1/2 IN.
A
STRAP
BUFFER
SECTION D-D
1/8 IN.
1/8 IN.
SECTION C-C (TYP 2 PLACES)
STRAP
SPREADER
STRAP
1/8 IN.
1 1/2 IN.
1/8 IN.
1/8 IN.
6 5/8 IN.
1 3/4 IN.
15 IN.
SECTION B-B

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Figure 3–40. Riser assembly construction details, 26-foot-diameter high-velocity cargo parachute.

(10) *Vent reinforcement tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vent reinforcement tape may be spliced one time as follows:

1 Cut a length of doubled 3/4-inch-wide, type III nylon tape long enough to extend beyond two vent lines on each side of the damaged vent reinforcement area and sear the ends.

2 Center the doubled tape length over the damaged vent reinforcement area and secure the splice by stitching a box-stitch formation the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(11) *Vertical tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vertical tape may be spliced an unlimited number of times as follows:

1 Cut a length of 1/2-inch-wide, type III nylon tape long enough to extend 4 inches beyond each side of the damaged area and sear the ends.

2 Center the tape length over the damaged area and secure the splice by stitching a box-stitch formation the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. An unserviceable 26-foot-diameter high-velocity cargo parachute canopy will only be replaced as prescribed in Appendix C.

3—15. The Suspension Clevis

a. Inspection. Inspect a 3/4-inch suspension clevis used with the 26-foot-diameter high-velocity cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1

b. Service. Service a 3/4-inch suspension clevis by removing burrs, rough spots, and corrosion using a crocus cloth or metal file.

c. Repair. Repair a 3/4-inch suspension clevis by replacing a defective or missing 3/4-inch -16NF hexagon plain nut or 4 1/2-inch-long, 3/4-inch -16NF hexagon cap screw with a serviceable item from stock.

d. Replacement. Replace an unserviceable 3/4-inch suspension clevis with a serviceable item from stock.

3—16. The Deployment Bag

a. Inspection. Inspect a deployment ba used with the 26-foot-diameter high-velocit cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 26-foot-diameter high-velocity cargo parachute deployment bag by cleaning the bag material as prescribed in TM 10-1670-201-23/TO 13C-1-41

c. Repair.

CAUTION

When performing a repair on a 26-foot-diameter high-velocity cargo parachute deployment bag which requires cutting of stitching or an original part, insure that adjacent bag material is not damaged during the cutting process.

(1) *Attaching loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO· 3C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged attaching loop by fabrication using the procedures and materials outlines in paragraph 3-8*c*(1)(*b*).

(2) *Upper end reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bag upper end reinforcement by fabricating as follows:

1 Cut the stitching which secures the reinforcement on the bag upper end and remove the original reinforcement webbing.

2 Cut a 27 1/4-inch length of 1 3/4-inch-wide, type VIII coton webbing and wax the ends.

3 Fold the webbing length according to original construction details and the details in figure 3-41, making a 2 3/4-inch-long overlap on the webbing ends.

4 Place the folded webbing in the original reinforcement location and secure the webbing by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(3) *Main strap (side and center).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

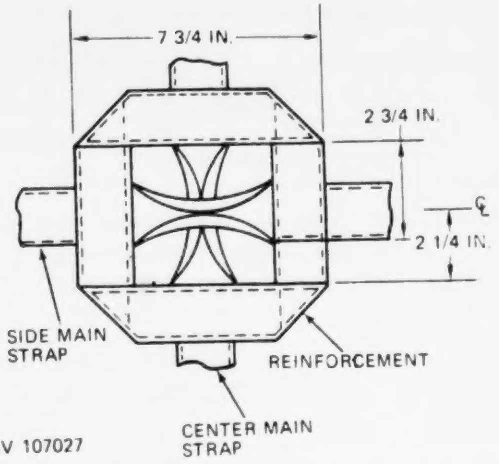


Figure 3–41. Deployment bag upper end reinforcement replacement details, 26-foot-diameter high velocity cargo parachute.

(b) Splicing. Splice a damaged side or center main strap using the limitations and procedures in paragraph 3-8*c*(2)(*b*), 1 3/4-inch-wide, type VIII cotton webbing, and the specifics in table 3-3.

(c) Replacement. Replace a side or center main strap which is damaged beyond repair by fabricating as follows:

1 Center main strap.

(a) Remove the attaching loop from the bag inside by cutting the stitching which secures the attaching loop to the center main strap.

(b) Remove the suspension line protector flap by cutting the stitching which secures the flap to the bag body.

(c) Cut the stitching which secures the bag upper end reinforcement over the center main strap at two points for a distance of 3 inches on each side of the strap.

(d) Remove the original center main strap by cutting the stitching which secures the strap to the bag main panel.

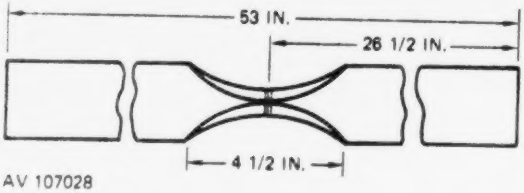


Figure 3-42. Deployment bag center main strap construction details, 26-foot-diameter high-velocity cargo parachute.

(e) Cut a 53-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

(f) Using a suitable marking aid, mark the webbing length at the center. On each side of the center mark, roll 2 1/4 inches of the webbing edges to the center of the webbing width (fig. 3-42). Secure the rolled edges by making three rows of stitching laterally across the center of the rolled webbing. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(g) Position the webbing strap in the original center main strap location with the rolled edges at the bag upper end, and make a 3 1/4-inch-long turnunder on each webbing end. Secure the strap to the bag body by stitching according to original construction details and the details in figure 3-43. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. When positioning a replacement center main strap, insure the strap rolled edges are located under the side main strap rolled edges at the bag upper end.

(h) Reposition the loose sides of the bag upper end reinforcement removed in (c) above, and restitch according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(i) Position the suspension line protector flap removed in (b) above in the original location and secure the flap by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(j) Position the attaching loop removed in (a) above in the original location on the bag inside and secure the loop by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

2 Side main strap.

(a) Remove each of the static line retaining straps and tie loops from the bag side main strap by cutting the stitching securing each loop.

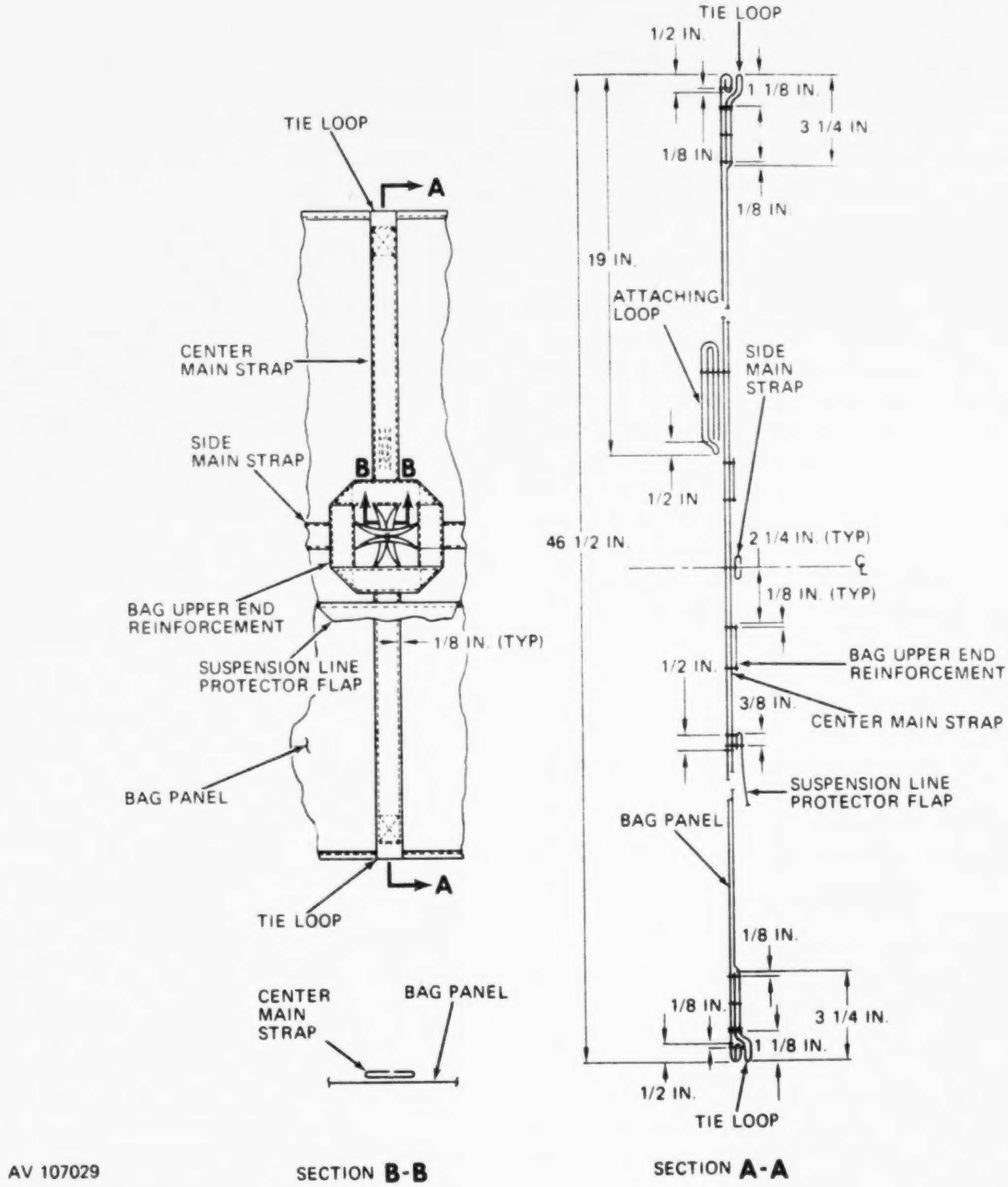
(b) Cut the stitching which secures the bag upper end reinforcement over the side main strap at two points for a distance of 3 inches on each side of the strap.

(c) Cut a suitable amount of stitching which secures the folded lower edge of each side gusset panel over each of the side main strap ends.

(d) Remove the original side main strap by cutting the stitching which secures the strap to the bag main panel and side gusset panels.

(e) Cut a 72-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

(f) Using a suitable marking aid, mark the webbing length at the center. On each side of the center mark, roll 2 1/4 inches of the webbing edges to the center of the webbing width. Secure the rolled edges by making three rows of stitching laterally across the center of the rolled webbing according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.


TIE LOOP
A
CENTER MAIN STRAP
SIDE MAIN STRAP
B
B
BAG UPPER END REINFORCEMENT
SUSPENSION LINE PROTECTOR FLAP
1/8 IN. (TYP)
BAG PANEL
TIE LOOP
A
CENTER MAIN STRAP
BAG PANEL
TIE LOOP
1/2 IN.
1 1/8 IN.
3 1/4 IN.
1/8 IN.
1/8 IN.
19 IN.
ATTACHING LOOP
SIDE MAIN STRAP
1/2 IN.
46 1/2 IN.
2 1/4 IN. (TYP)
℄
1/8 IN. (TYP)
1/2 IN.
BAG UPPER END REINFORCEMENT
3/8 IN.
CENTER MAIN STRAP
SUSPENSION LINE PROTECTOR FLAP
BAG PANEL
1/8 IN.
1/8 IN.
3 1/4 IN.
1 1/8 IN.
1/2 IN.
TIE LOOP
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SECTION B-B
SECTION A-A

Figure 3–43. Deployment bag center main strap installation details, 26-foot-diameter high-velocity cargo parachute.

(g) Position the webbing strap in the original side main strap location with the rolled edges located at the bag upper end, on top of the center main strap rolled edges. Secure the strap to the side gusset panels and the bag main panel by stitching according to original construction details and the details in figure 3-44. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(h) Refold the lower edge of each side gusset panel and restitch according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

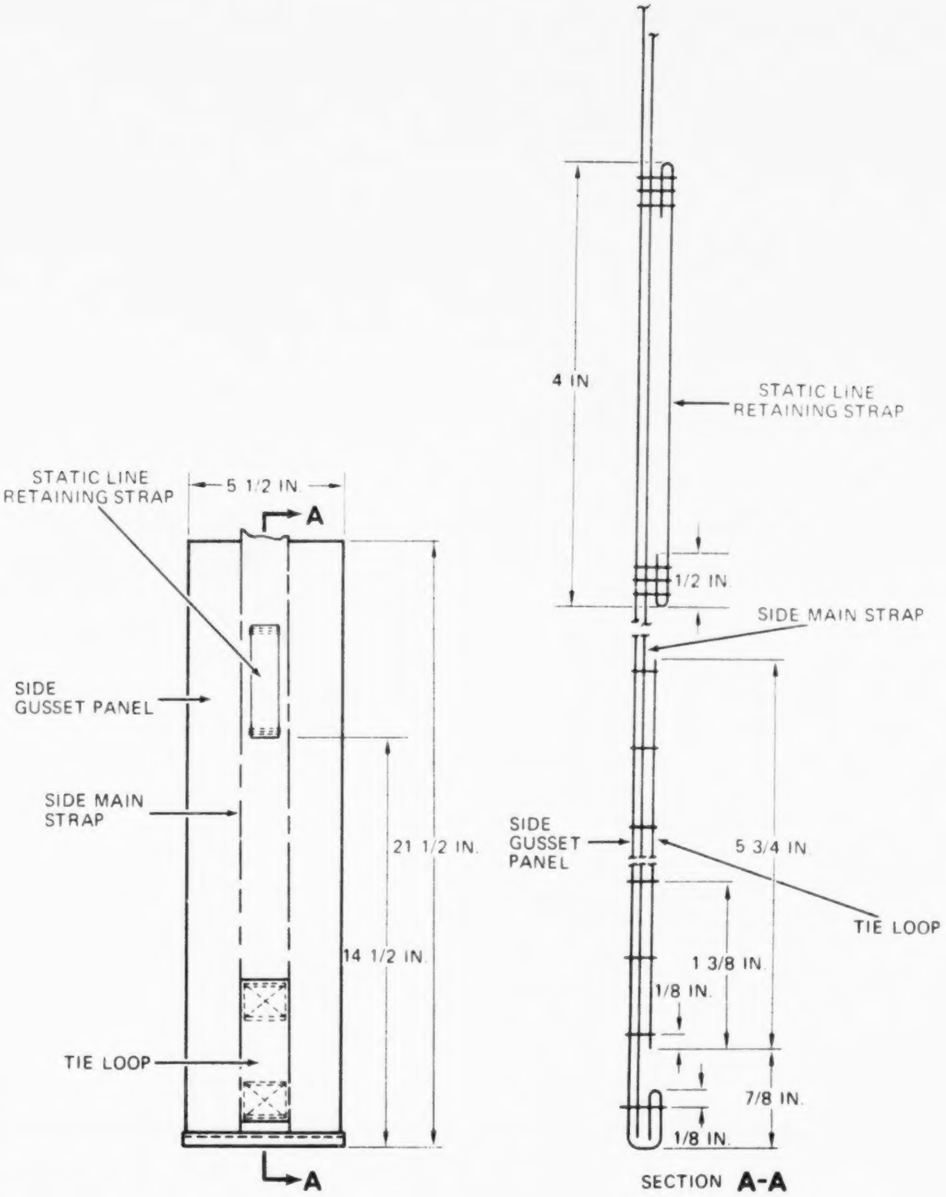
STATIC LINE RETAINING STRAP
5 1/2 IN.
A
SIDE GUSSET PANEL
SIDE MAIN STRAP
21 1/2 IN.
14 1/2 IN.
TIE LOOP
A
4 IN
STATIC LINE RETAINING STRAP
1/2 IN.
SIDE MAIN STRAP
SIDE GUSSET PANEL
5 3/4 IN.
TIE LOOP
1 3/8 IN.
1/8 IN.
7/8 IN.
1/8 IN.
SECTION A-A

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Figure 3–44. Deployment bag side main strap replacement details, 26-foot-diameter high-velocity cargo parachute.

(i) Reposition the loose sides of the bag upper end reinforcement removed in (c) above in the original location and restitch according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(j) Position each of the static line retaining straps and tie loops removed in (a) above in the original location and secure each item by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(4) *Panels and flaps.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter as prescribed in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. There is no limit to the number of darns which may be made on the bag panels and flaps.

(c) Patching. Patch a hole or tear which exceeds 3/4 inch in length or diameter as prescribed in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3 and type III 12.29-ounce cotton duck cloth. There is no limit to the number or size of patches which may be made on the bag panels and flaps.

(d) Restencil. Restencil identification markings on the deployment bag suspension line protector flap using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(5) *Static line retaining strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged static line retaining strap located on the side main strap by fabricating as follows:

1 Remove the original retaining strap by cutting the stitching which secures the strap to the side main strap.

2 Cut a 5-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

3 Make a 1/4-inch-long turnunder on each end of the webbing length and position the webbing in the original retaining strap location with the turnunders facing down. Secure the replacement strap by making three rows of stitching across each strap end according to original construction details and the details in figure 3-44. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(6) *Suspension line retaining strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

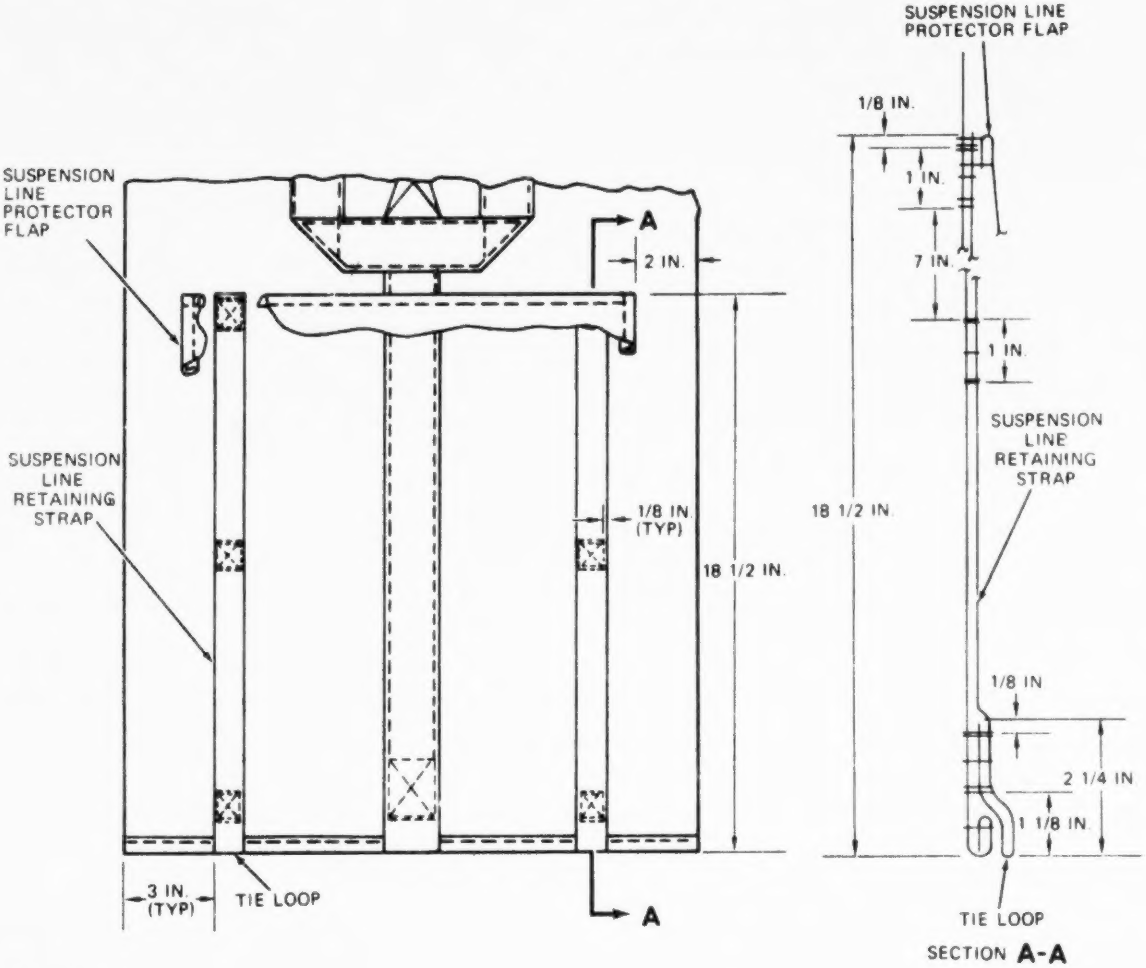
(b) Replacement. Replace a damaged suspension line retaining strap by fabricating as follows:

1 Cut 3 inches of stitching on each end of the suspension line protector flap upper edge and fold the loose sides of the flap in toward the bag center.

2 Remove the original suspension line retaining strap by cutting the strap webbing flush with each side of the original single-X-box-stitch formations. Insure the tie loop formed on the lower end of the strap is also removed by cutting the loop material flush with the adjacent X-box-stitch formation.

3 Cut a 20 3/4-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

4 Make a 2 1/4-inch-long foldunder on one end of the webbing length to form a tie loop, and position the webbing in the original strap location with the foldunder facing down and alined with the lower end of the bag


SUSPENSION LINE PROTECTOR FLAP
SUSPENSION LINE RETAINING STRAP
A
2 IN.
1/8 IN. (TYP)
18 1/2 IN.
3 IN. (TYP)
TIE LOOP
A
SUSPENSION LINE PROTECTOR FLAP
1/8 IN.
1 IN.
7 IN.
1 IN.
18 1/2 IN.
SUSPENSION LINE RETAINING STRAP
1/8 IN
2 1/4 IN
1 1/8 IN.
TIE LOOP
SECTION A-A

AV 107031

Figure 3–45. Deployment bag suspension line retaining strap replacement details, 26-foot-diameter high-velocity cargo parachute.

panel. Using the remaining original stitch formations as reinforcements, secure the replacement strap by stitching according to original construction details and the details in figure 3-45. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Position the sides of the suspension line protector flap in the original location and restitch the flap upper end according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(7) *Protector flap tie loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged protector flap tie loop by fabricating as follows:

1 Remove the original tie loop by cutting the stitching which secures the loop to the suspension line protector flap.

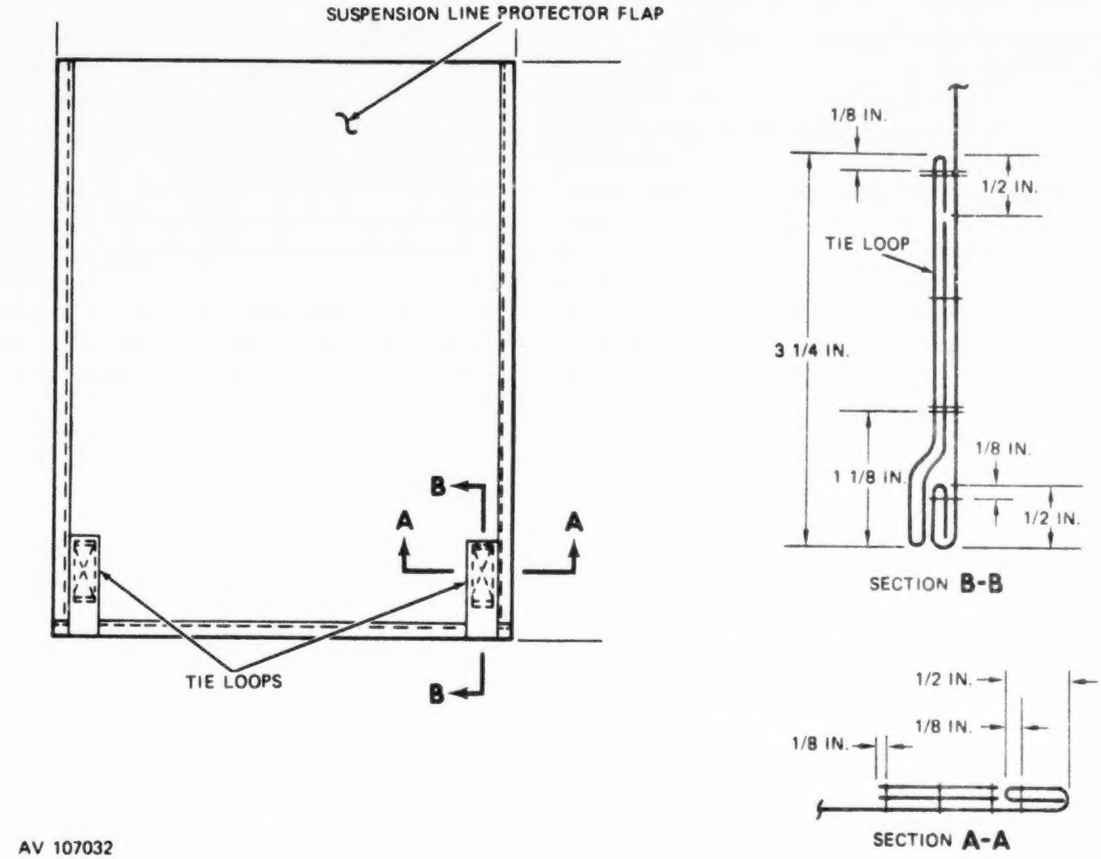


Figure 3–46. Deployment bag suspension line protector flap tie loop replacement details, 26-foot-diameter high-velocity cargo parachute.

2 Cut a 6 1/2-inch length of 1-inch-wide, type II cotton webbing and fold the webbing length according to the details in figure 3-46 to form a 3 1/4-inch-long tie loop.

3 Position the formed tie loop in the original tie loop location and secure the loop by stitching according to original construction details and the details in figure 3-46. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(8) *Side main strap tie loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged side main strap tie loop by fabricating as follows:

1 Remove the original tie loop by cutting the stitching which secures the loop to the side main strap and the side gusset panel.

2 Cut a 5 3/4-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

3 Position the webbing length in the original loop location and secure the webbing by stitching according to original construction details and the details in figure 3-44. Stitching will be made in accordance with TM

10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. Replace an unserviceable 26-foot-diameter high-velocity cargo parachute deployment bag with a serviceable item from stock.

3–17. The Static Line

a. Inspection. Inspect a 15-foot-long static line used with the 26-foot-diameter high-velocity cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 15-foot-long static line by cleaning the static line webbing and associated components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair. Repair the 15-foot-long static line using the applicable procedures in paragraph 3-9*c* and the specifics in table 3-3.

d. Replacement. Replace an unserviceable 15-foot-long static line by fabrication using the procedures in paragraph 3-9*d* and the specifics in table 3-3.

Section VII. THE G-14 34-FOOT-DIAMETER CARGO PARACHUTE

3–18. The Parchute Canopy

a Inspection. Inspect a G-14 34-foot-diameter cargo parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a G-14 34-foot-diameter cargo parachute canopy by cleaning and drying the canopy and associated canopy components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a G-14 34-foot-diameter cargo parachute canopy which requires cutting of stitching or an original part, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Bridle loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable bridle loop by fabricating as follows:

1 Cut a 10-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

2 Pass one end of the webbing through all of the canopy vent lines and join both webbing ends together above the vent lines with a 2-inch-long overlap (fig. 3-47).

3 Beginning at a point 1/4 inch back from one overlapped webbing end, secure the overlapped ends together by stitching a 1 1/2-inch-long single-X-box-stitch formation,

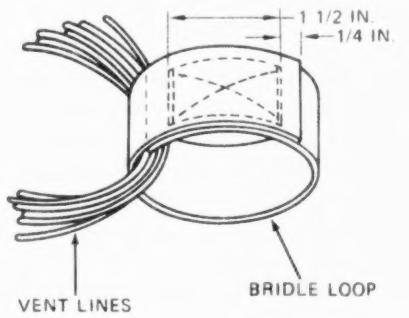


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Figure 3–47. Bridle loop replacement details, G-14 34-foot-diameter cargo parachute.

with two double ends, to a point 1/4 inch back from the opposite overlapped webbing end. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 Remove the original bridle loop from the canopy vent lines by cutting the loop webbing.

(2) *Vent line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A damaged vent line may be spliced one time as follows:

1 Using a suitable marking aid, mark the canopy at each end of the original vent line.

2 Cut a length of type IA coreless nylon cord long enough to extend 3 inches beyond each side of the damaged area and wax the ends.

3 Center the cord length over the damaged area and secure the splice by stitching a 1/8-inch-wide row of double-throw zigzag stitching the full length of the splice material, using the specifics in table 3-3.

(c) Replacement. Replace an unserviceable vent line by fabricating as follows:

1 Remove the original vent line by cutting the stitching which secures each end of the line to the canopy vent reinforcement (upper lateral band) and a radial tape.

2 Cut an 18-inch length of type IA coreless nylon cord and wax the ends.

3 Using a suitable marking aid, mark the cord length at a point 2 1/2 inches from each end.

4 Position the cord length in the original vent line location and aline the marks made in *3* above with the upper edge of the vent reinforcement (upper lateral band).

5 Using original attaching details and the details in figure 3-48, secure each end of the replacement vent line to the vent reinforcement (upper lateral band) and the applicable radial tape with a 1/8-inch-wide row of double-throw zigzag stitching. Stitching will be made using the specifics in table 3-3.

(3) *Vent reinforcement (upper lateral band).*

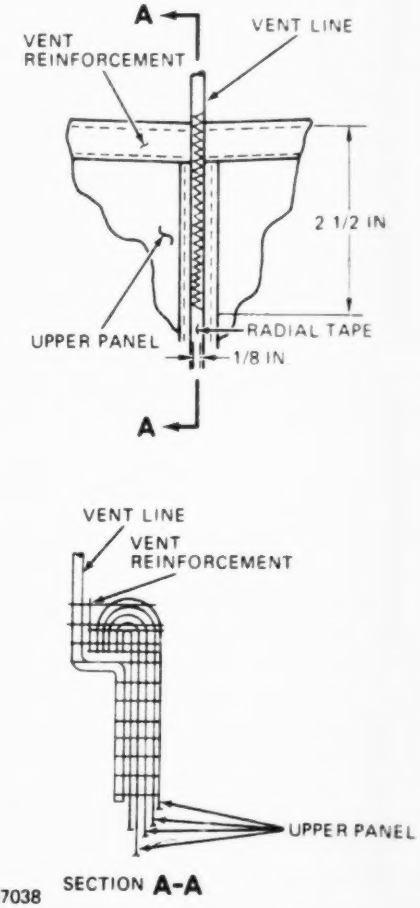

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Figure 3–48. Vent line attachment details, G-14 34-foot-diameter cargo parachute.

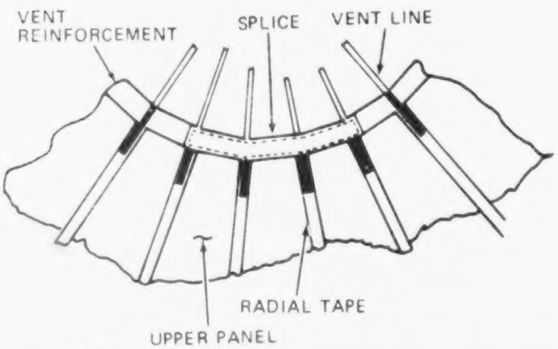


Figure 3–49. Vent reinforcement splicing details, G-14 34-foot-diameter

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A damaged vent reinforcement (upper lateral band) may be spliced one time as follows:

1 Cut a length of 9/16-inch-wide, type I nylon webbing long enough to extend 1 inch beyond two vent lines on each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area on top of the four vent lines (fig. 3-49) and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(4) *Panel (upper and lower).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear in an upper or lower panel which does not exceed 3/4 inch in length or diameter as outlined in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. An upper or lower panel of a G-14 34-foot-diameter cargo parachute canopy may be darned a maximum of three times.

(c) Patching. A hole or tear in an upper or lower panel which exceeds 3/4 inch, but does not exceed 18 inches in length or diameter will be patched in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3, if applicable. An upper or lower panel of a G-14 34-foot-diameter cargo parachute canopy may be patched a maximum of three times or up to 50 percent of its total area, whichever occurs first.

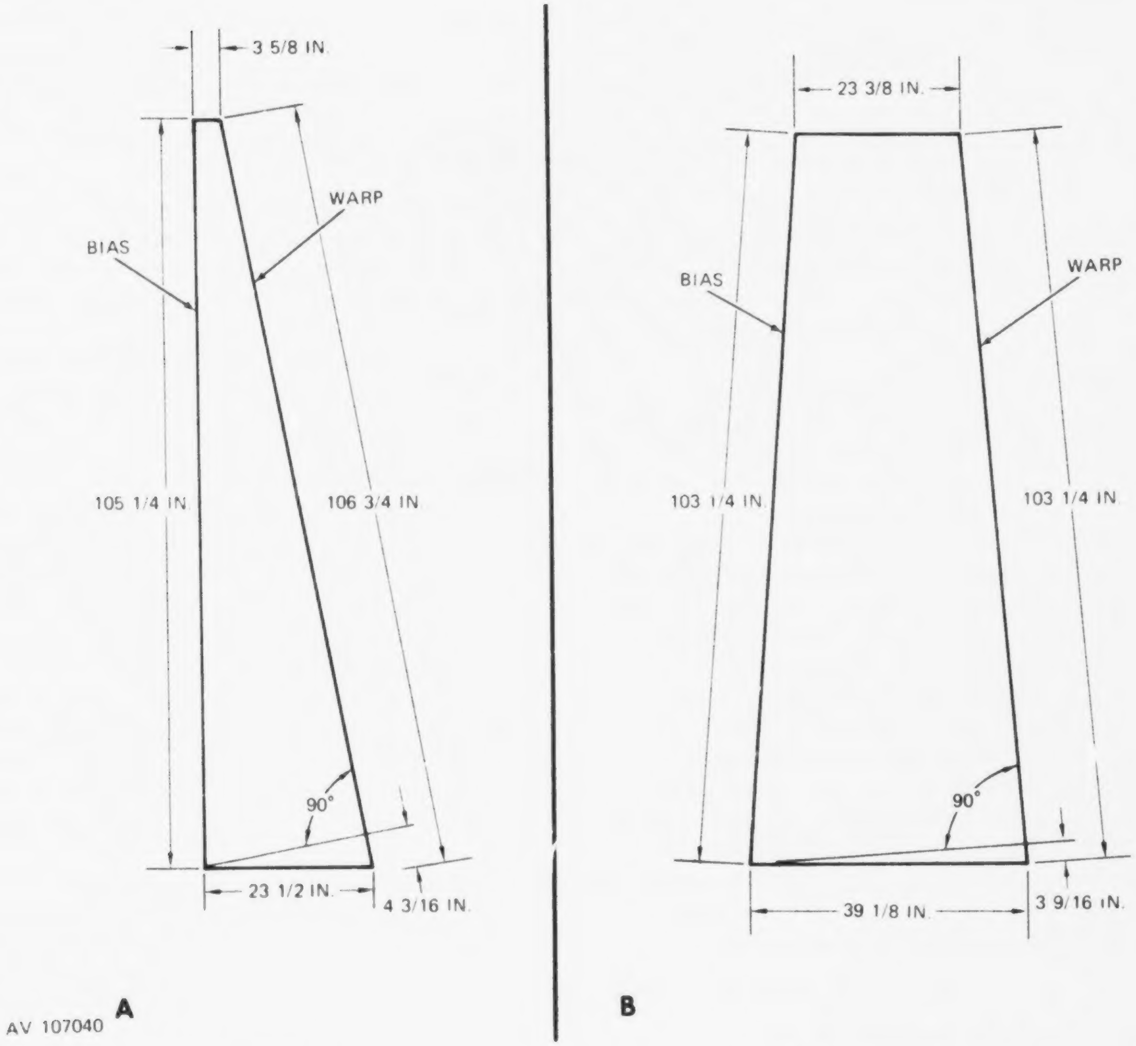
NOTE

The upper and lower panels of the G-14 34-foot-diameter cargo parachute may be patched by two methods. One method is by use of cotton balloon coated cloth which is a pressure-sensitive (iron-on) patch material that does not require stitching. The second method of patching requires stitching and the patch material will be of type III 3.8-ounce cotton muslin cloth.

(d) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(e) Replacement. An upper or lower panel which is damaged beyond repair will be replaced by fabricating as follows:

1 Invert the canopy to locate the inside of the damaged panel to the outside and place the canopy on a repair table. Secure each of the adjacent radial tapes, the vent or skirt reinforcement, as applicable, and the upper or lower annular ring reinforcement, as applicable, to the table with pushpins.


3 5/8 IN.
WARP
BIAS
105 1/4 IN.
106 3/4 IN.
90°
23 1/2 IN.
4 3/16 IN.
AV 107040
A
23 3/8 IN.
BIAS
WARP
103 1/4 IN.
103 1/4 IN.
90°
39 1/8 IN.
3 9/16 IN.
B

A. Upper panel.

B. Lower panel.

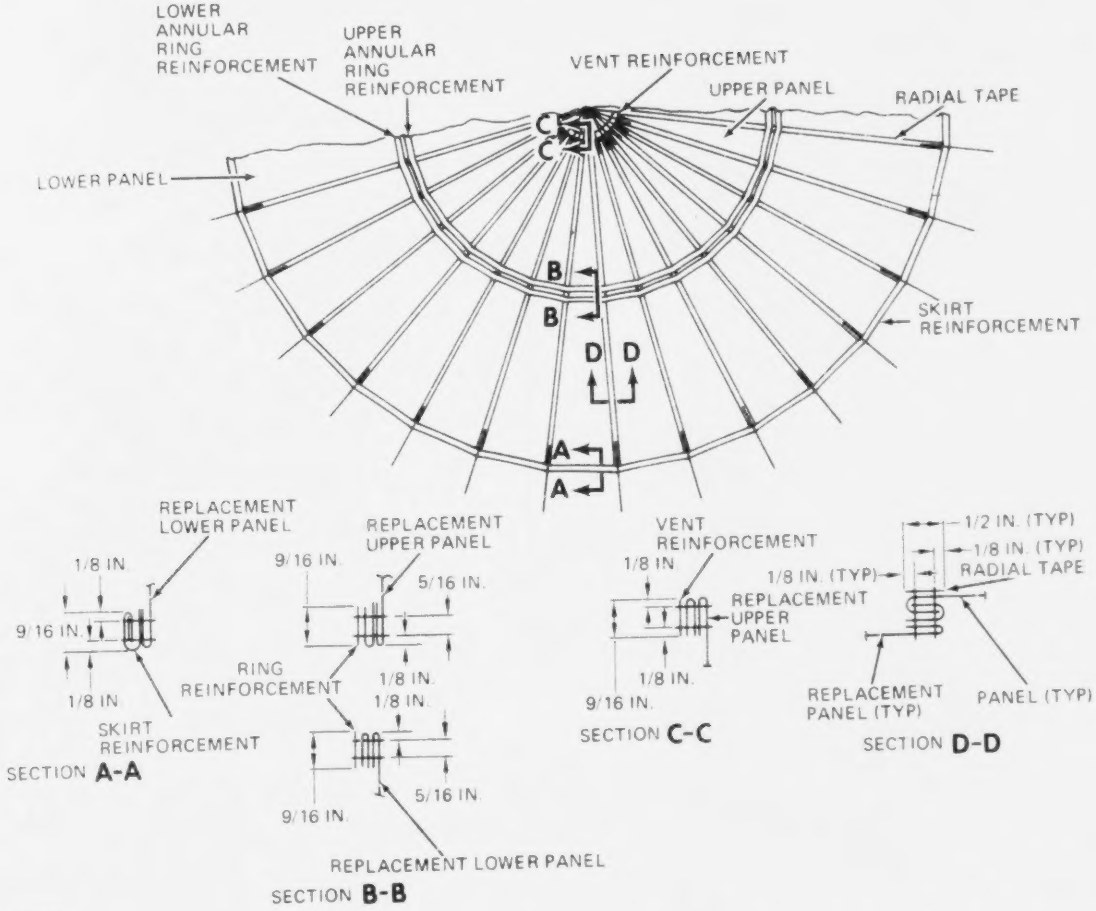
Figure 3–50. Canopy panel fabrication details, G-14 34-foot-diameter cargo parachute.

2 Remove the affected panel by cutting the panel material at a point within 1/2 inch of the inside edge of each radial tape, the vent or skirt reinforcement (upper or lower lateral band), as applicable, and the applicable annular ring reinforcement.

3 Make a 1/2-inch foldback on each of the inside cut edges and baste each foldback according to the basting procedures outlined in TM 10-1670-201-23/TO 13C-1-41.

4 Cut a piece of type III 3.8-ounce cotton muslin cloth according to the applicable details in figure 3-50 and place the cloth in the original panel location.

5 On each side of the cloth material, make a 1/2-inch turnunder and insure the folded edge is alined with the outside edge of the radial tape (fig. 3-51). Temporarily secure the turnunders to the radial tapes by basting in accordance with TM 10-1670-201-23/TO 13C-1-41.


LOWER ANNULAR RING REINFORCEMENT
UPPER ANNULAR RING REINFORCEMENT
VENT REINFORCEMENT
UPPER PANEL
RADIAL TAPE
LOWER PANEL
C
C
B
B
D D
A
A
SKIRT REINFORCEMENT
REPLACEMENT LOWER PANEL
1/8 IN.
9/16 IN.
1/8 IN.
SKIRT REINFORCEMENT
SECTION A-A
REPLACEMENT UPPER PANEL
9/16 IN.
5/16 IN.
RING REINFORCEMENT
1/8 IN.
1/8 IN.
9/16 IN.
5/16 IN.
REPLACEMENT LOWER PANEL
SECTION B-B
VENT REINFORCEMENT
1/8 IN.
REPLACEMENT UPPER PANEL
1/8 IN.
9/16 IN.
SECTION C-C
1/2 IN. (TYP)
1/8 IN. (TYP)
1/8 IN. (TYP)
RADIAL TAPE
REPLACEMENT PANEL (TYP)
PANEL (TYP)
SECTION D-D

AV 107041

Figure 3–51. Panel replacement details, G-14 34-foot-diameter cargo parachute.

6 On the upper and lower ends of the cloth material, make a 1/2-inch turnunder. Insure the folded edge of the upper end is alined with the upper edge of the vent reinforcement (upper lateral band) or lower annular ring reinforcement, as applicable, while the folded edge of the lower end is alined with the lower edge of the upper annular ring reinforcement or skirt reinforcement (lower lateral band), as applicable. Temporarily secure the turnunders by basting in accordance with TM 10-1670-201-23/TO 13C-1-41. Remove the push-pins used in *1* above.

7 Begin securing the replacement panel by stitching a single row, 1/8 inch in, along the outer edge of all the panel folded edges. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

8 Reinvert the canopy to the outside and trim the raw edges of the panel material along the inside edge of each seam surrounding the replacement panel.

9 Complete the panel installation by stitching a second single row along the inside of the panel folded edges, 1/8 inch out from the inside edge of each radial tape, the vent or skirt reinforcement (upper or lower lateral band), as applicable, and the applicable annular ring reinforcement. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(5) *Radial tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A radial tape may be spliced an unlimited number of times as follows:

1 Cut a length of 1/2-inch-wide, type IV nylon webbing long enough to extend 6 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(6) *Annular ring reinforcement (upper and lower).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. An upper or lower annular ring reinforcement may be spliced one time as follows:

1 Cut a length of 9/16-inch-wide, type I nylon webbing long enough to extend 6 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(7) *Skirt reinforcement (lower lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Using the limitations specified in TM 10-1670-201-23/TO 13C-1-41, splice a damaged skirt reinforcement (lower lateral band) as follows:

1 Cut a length of 9/16-inch-wide, type I nylon webbing long enough to extend 6 inches beyond each side of the damaged area and sear the ends.

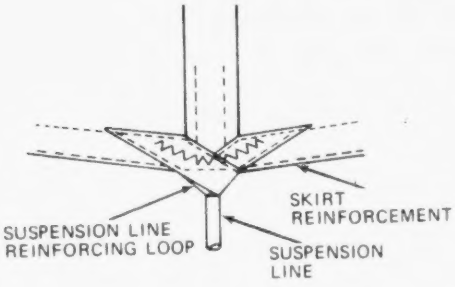
2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(8) *Suspension line reinforcing loop (V-tab).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable suspension line reinforcing loop by fabrication according to V-tab replacement procedures outlined in TM 10-1670-201-23/TO 13C-1-41 and the details in figure 3-52, using a 5-inch length of 9/16-inch-wide, type I nylon webbing with seared ends. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(9) *Suspension line reinforcement.*


SKIRT
REINFORCEMENT
SUSPENSION LINE
REINFORCING LOOP
SUSPENSION
LINE

AV 107042

Figure 3–52. Suspension line reinforcing loop replacement details, G-14 34-foot-diameter cargo parachute.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged suspension line reinforcement by fabricating as follows:

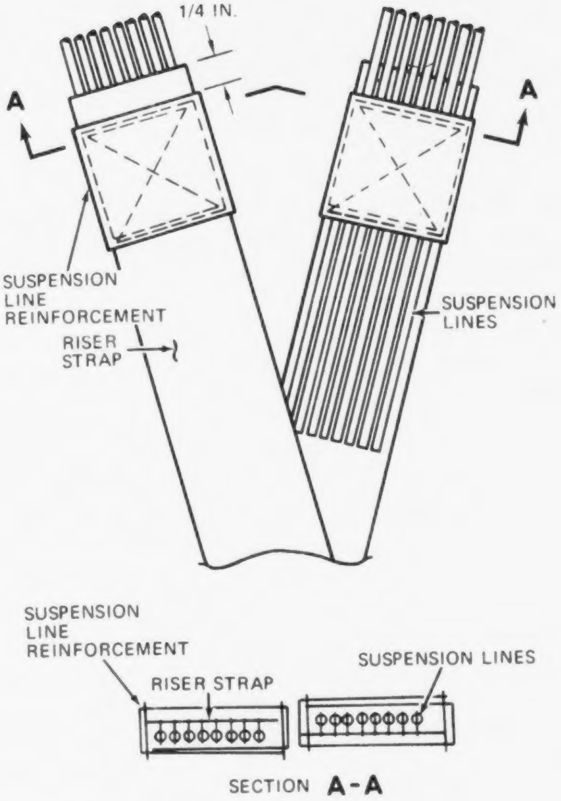
1 Remove the original reinforcement by cutting the stitching which secures the reinforcement webbing to the suspension lines and the riser strap upper end.

2 Cut a 5 1/4-inch length of 1 23/32-inch-wide, type XII nylon webbing and sear the ends.

3 Place one end of the webbing length across the suspension lines in the original reinforcement location and aline the edge of the webbing end with the outside edge of the riser strap.

4 Using the webbing running end, make 1 1/2 turns around the riser strap and secure the reinforcement by stitching a single-X-box-stitch formation with two double ends according to original construction details and figure 3-53. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(10) *Suspension line.*


1/4 IN.
A
A
SUSPENSION
LINE
REINFORCEMENT
RISER
STRAP
SUSPENSION
LINES
SUSPENSION
LINE
REINFORCEMENT
RISER STRAP
SUSPENSION LINES
SECTION A-A

AV 107043

Figure 3–53. Suspension line reinforcement replacement details, G-14 34-foot-diameter cargo parachute.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A suspension line may be spliced one time as follows:

1 Cut a length of type IA coreless nylon cord long enough to extend 3 inches beyond each side of the damaged area and wax the ends.

2 Center the cord length over the damaged area. Secure the splice by stitching a 1/8-inch-wide row of double-throw zigzag stitching the full length of the splice, extending the stitching 1/2 inch beyond each end of the splice material. Stitching will be made using the specifics in table 3-3.

(c) Replacement. Replace an unserviceable suspension line by fabricating as follows:

1 At the canopy skirt, remove the suspension line upper end by cutting the stitching which secures the line within the reinforcing loop and to the radial tape.

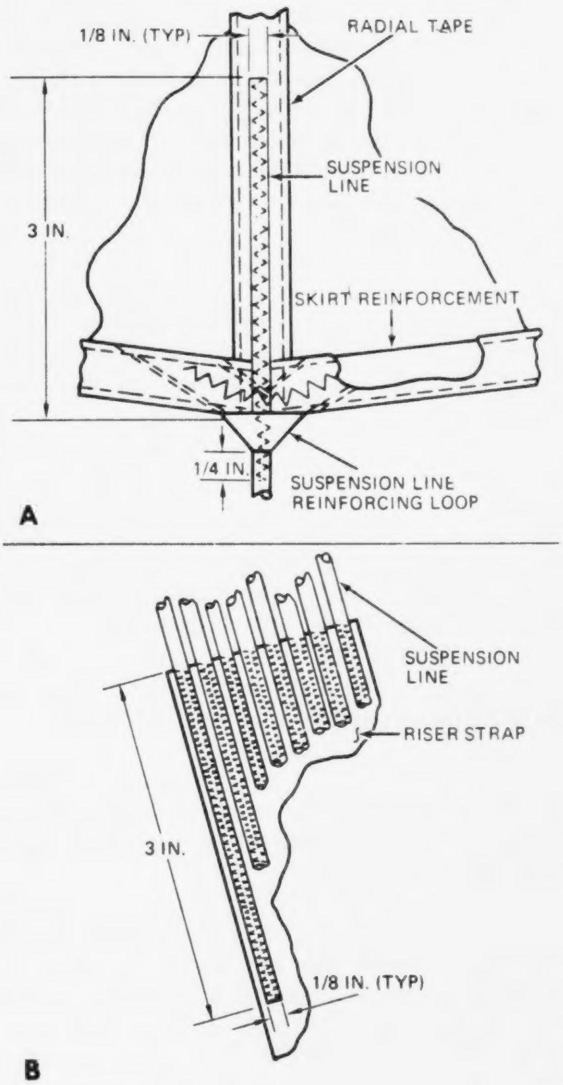
2 At the riser, remove the suspension line reinforcement from the applicable riser strap by cutting the stitching which secures the reinforcement over the lower end of the applicable suspension line group. Further cut the stitching which secures the suspension line lower end to the riser strap and remove the line lower end to complete removal of the original suspension line from the canopy.

3 Cut a length of type IA coreless nylon cord 3 inches longer than an adjacent suspension line and wax one end.

4 Using a suitable marking aid, mark the cord length at a point 3 inches from the waxed end.

5 Pass the waxed cord end through the suspension line reinforcing loop and position the cord end in the original suspension line upper end location on the canopy skirt. Aline the cord mark with the lower edge of the skirt reinforcement (lower lateral band). Secure the positioned cord end to the radial tape and the reinforcing loop by stitching a 1/8-inch-wide row of double-throw zigzag stitching to a point 1/4 inch below the reinforcing loop (A, fig. 3-54). Stitching will be made using the specifics in table 3-3.

6 Restitch the suspension line reinforcing loop as prescribed in paragraph (8)*(a)* above.



AV 107044

A. Attaching the suspension line at the canopy skirt.
B. Suspension line attachment to a riser strap.

Figure 3–54. Suspension line replacement details, G-14 34-foot-diameter cargo parachute.

7 Apply partial tension to the suspension lines and measure the replacement line under equal tension with an adjacent line. Using a suitable marking aid, mark the replacement line at the upper edge of the applicable riser strap. Release tension.

8 At a point 3 inches below the mark made in 7 above, cut and remove any excess cord length. Wax the line end.

9 Place the lower end of the line length in the original suspension line location on the riser strap and aline the mark made in *7* above with the riser strap upper edge. Secure the lower end of the suspension line to the riser strap by stitching a 1/8-inch-wide by 3-inch-long row of double-throw zigzag stitching (B), using the specifics in table 3-3.

10 Install a suspension line reinforcement over the suspension lines and around the riser strap as outlined in paragraph (9)*(b)* above.

(11) *Riser.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A riser strap or spreader may be spliced one time as follows:

1 Cut a length of 1 23/32-inch-wide, type VI nylon webbing long enough to extend 2 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a single-X-box-stitch formation, with two double ends, 1/8 inch in from each edge, along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Restencil. As required, restencil the riser identification marks on the right riser strap using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(d) Retacking. Retack the parachute inspection data pocket (log record pocket) according to procedures in TM 10-1670-201-23/TO 13C-1-41.

(e) Replacing a parachute inspection data pocket. Replace a missing or unserviceable parachute inspection data pocket with a serviceable item from stock.

(f) Replacing a riser clevis safety pin. Replace an unserviceable or missing riser clevis safety pin by fabrication using the procedures in paragraph 3-7*c*(1)*(b)*.

(g) Replacing a riser clevis pin retaining cord. Replace a damaged or missing riser clevis pin retaining cord by fabrication using the procedures in paragraph 3-7*c*(1)*(a)*.

(h) Replacing a riser clevis. Replace an unserviceable or missing riser clevis with a serviceable item from stock.

(i) Replacing a spreader. Replace an unserviceable spreader by fabricating as follows:

1 Remove the original spreader from the riser by cutting the stitchin which secures each end of the spreader to a rise strap and slide the spreader down and off the lower ends of the riser straps.

2 Cut a 27-inch length of 1 23/32-inch-wide, type VI nylon webbing and sear the ends.

3 Using a suitable marking aid, mark the webbing length at a point 8 1/2 inches from each end.

4 Center the webbing length between the riser straps in the original spreader location.

5 Pass the left webbing end around the left riser strap and aline the webbing end with the mark made in *3* above. Secure the formed spreader end loop to the riser strap by

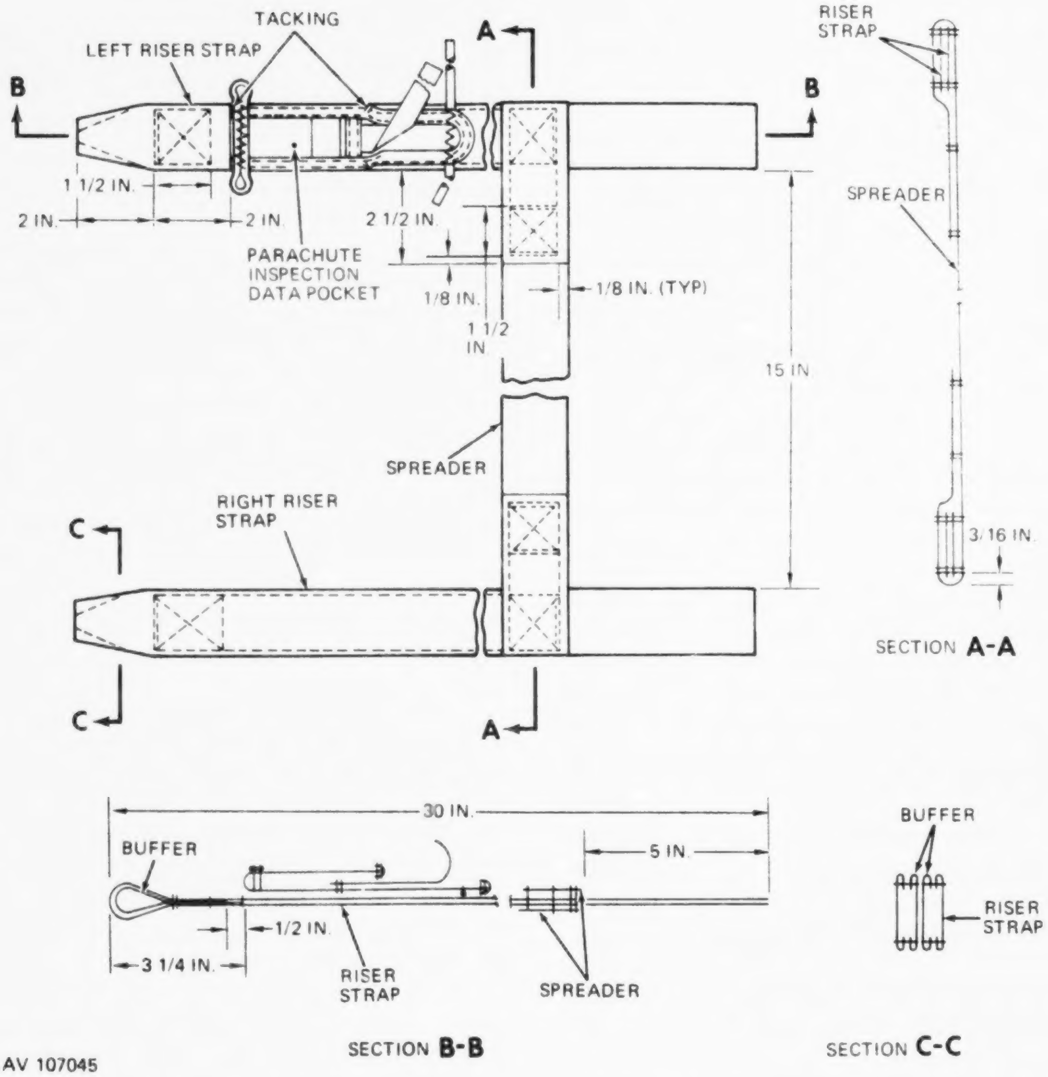

TACKING
LEFT RISER STRAP
A
B
B
RISER
STRAP
1 1/2 IN.
2 IN.
2 IN.
2 1/2 IN.
SPREADER
PARACHUTE
INSPECTION
DATA POCKET
1/8 IN.
1/8 IN. (TYP)
1 1/2
IN.
15 IN.
SPREADER
RIGHT RISER
STRAP
C
C
A
3/16 IN.
SECTION A-A
30 IN.
BUFFER
5 IN.
1/2 IN.
3 1/4 IN.
RISER
STRAP
SPREADER
BUFFER
RISER
STRAP
AV 107045
SECTION B-B
SECTION C-C

Figure 3–55. Riser construction details, G-14 34-foot-diameter cargo parachute.

stitching a single-X-box-stitch formation, with one double end, according to original construction details and the details in figure 3-55. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Secure the running ends of the spreader left end loop together by stitching a row of stitching along each edge and a 1 1/2-inch-long single-X-box-stitch formation, with two double ends, according to the details in figure 3-55. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

7 Using the procedures in *4* and *5* above, form and secure the spreader right end loop to the right riser strap.

(j) Replacing a riser strap. Replace an unserviceable riser strap by fabricating as follows.

1 Remove the riser clevis from the lower end of the affected riser strap and retain the clevis for further use, if serviceable.

2 If the left riser strap is being replaced, remove the parachute inspection data pocket (log record pocket) by cutting the tacking at four points. Retain the pocket for further use, if serviceable.

3 At the upper end of the riser strap, cut the stitching which secures each of the two suspension line reinforcements to the strap and remove the reinforcements.

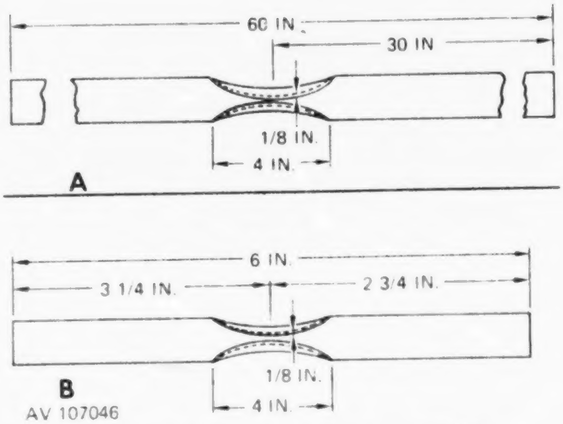
4 Remove the two suspension line groups from the upper end of the riser strap by cutting the stitching which secures the lower end of each suspension line to the riser strap. Place the line groups separately to one side and insure the lines do not become mixed or entangled during the removal process.

5 Cut the stitching which secures the applicable spreader end loop to the damaged riser strap and remove the riser strap by pulling the strap through the spreader end loop.

6 Cut a 60-inch and a 6-inch length of 1 23/32-inch-wide, type VI nylon webbing and sear the ends.

7 On each side of the center of the 60-inch webbing length, roll 2 inches of the webbing edges in to the center of the webbing width (A, fig. 3-56). Secure each rolled edge with a 4-inch-long row of stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

8 Using the 6-inch webbing length and the details in B, figure 3-56, roll 4 inches of the webbing edges in to the center of the webbing width and secure each rolled edge with a row of stitching. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.



A. Forming the loop on the riser strap webbing.
B. Forming the loop on the riser strap loop buffer.

Figure 3-56. Riser strap clevis attaching loop construction details, G-14 34-foot-diameter cargo parachute.

9 Double the 60-inch webbing length with the rolled edges facing to the inside of the fold and aline the running ends.

10 Fold the 6-inch webbing length with the rolled edges facing out and allow one end of the folded strap to overlap by 1/2 inch. The folded webbing will form a buffer for the riser strap clevis attaching loop.

11 Insert the folded 6-inch webbing length into the loop formed on the folded 60-inch webbing length with the rolled edges alined and facing each other.

12 Beginning at a point 2 inches back from the webbing fold, secure the plies of the riser strap and the buffer together by stitching a 1 1/2-inch-long single-X-box-stitch formation, with one double end, according to the details in figure 3-55. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

13 Using a suitable marking aid, mark the folded riser strap at a point 5 inches from the strap running ends.

14 Beginning at a point 3 1/2 inches above the clevis attaching loop, secure the riser strap webbing plies together by making a row of stitching along each webbing edge to the 5-inch mark made in *13* above. Stitching will be made according to the details in figure 3-55 and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

15 Pass the riser strap running ends through the applicable spreader end loop and aline the mark made in *13* above with the upper edge of the spreader webbing. Secure the spreader end loop to the riser strap by stitching a single-X-box-stitch formation, with one double end, according to the details in figure 3-55. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

CAUTION

When arranging and installing the suspension lines on a G-14 34-foot-diameter cargo parachute riser strap, insure the lines do not become disarranged or entangled.

16 Position each of the applicable two suspension line groups removed in *4* above on the riser strap running ends according to original construction details and the details in figure 3-57. Secure each suspension line by stitching a 1/8-inch-wide by 3-inch-long row of double-throw zigzag stitching (B, fig 3-54), using the specifics in table 3-3.

17 Using the procedures in paragraph (9)(*b*) above, install a replacement suspension line reinforcement on each of the riser strap running ends.

18 If applicable, reinstall the parachute inspection data pocket (log record pocket), if serviceable, on the left riser strap by handtacking the pocket at four points according to the details in figure 3-55, using two turns double, ticket No. 5 waxed cotton thread at each point. Secure each of the tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/4 inch.

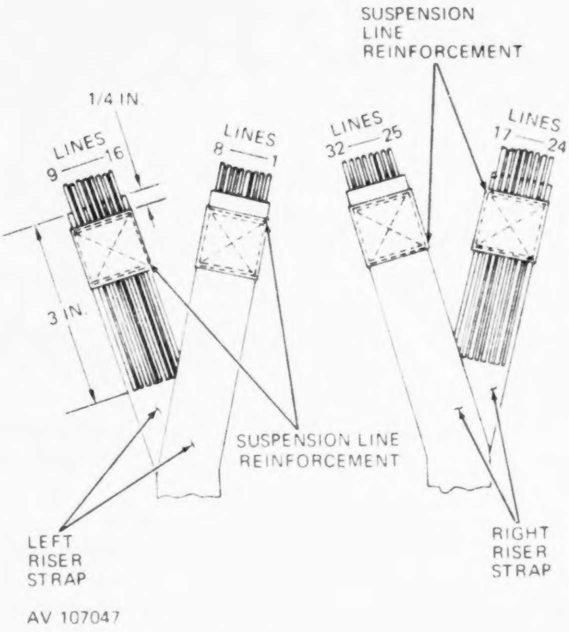


Figure 3-57. Suspension line arrangement on riser straps, G-14 34-foot-diameter cargo parachute.

19 As applicable, stencil the riser identification markings on the right riser strap according to original stenciling details, using the procedures in TM 10-1670-201-23/TO 13C-1-41.

20 Attach a serviceable riser clevis to the clevis attaching loop on the lower end of the riser strap.

d. Replacement. An unserviceable G-14 34-foot-diameter cargo parachute, canopy will only be replaced as prescribed by Appendix C.

3–19. The Parachute Pack

a. Inspection. Inspect a pack used with the G-14 34-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a G-14 34-foot-diameter cargo parachute pack by cleaning the pack material in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair. Repair a G-14 34-foot-diameter cargo parachute pack using the procedures outlined in paragraph 3-11*c* and the specifics in table 3-3.

d. Replacement. Replace an unserviceable G-14 34-foot-diameter cargo parchute pack with a serviceable item from stock.

3–20. The Static Line

a. Inspection. Inspect a 15 1/2-foot-long static line used with the G-14 34-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 15 1/2-foot-long static line by cleaning the static line webbing and associated components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair. Repair a 15 1/2-foot-long static line using the procedures outlined in paragraph 3-12*c* and the specifics in table 3-3.

d. Replacement. Replace an unserviceable 15 1/2-foot-long static line with a serviceable item from stock.

3–21. The Static Line Parachute Drogue

a. Inspection. Inspect a static line parachute drogue used with the G-14 34-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a static line parachute drogue by cleaning the drogue material in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair. Repair a static line parachute drogue using the procedures in paragraph 3-13*c* and the specifics in table 3-3.

d. Replacement. Replace an unserviceable static line parachute drogue with a serviceable item from stock.

Section VIII. THE 38-FOOT-DIAMETER RCAT CARGO PARACHUTE

3–22. The Parachute Packing Box

a. General. The packing box is a plywood container which is used as a packing aid when packing the 38-foot-diameter RCAT (Radio Controlled Aerial Target) cargo parachute.

b. Fabrication. A parachute packing box may be initially obtained or replaced by fabricating as follows:

(1) Cut five pieces of 1/2-inch-thick 5-ply hardwood plywood according to the details in A, figure 3-58.

(2) Using the details in A, figure 3-58, cut a 2 1/2-inch-long slot in the 8-inch-wide by 11-inch-long piece of plywood.

(3) Assemble the packing box (B) using cement coated steel 6d common nails and a suitable type hammer.

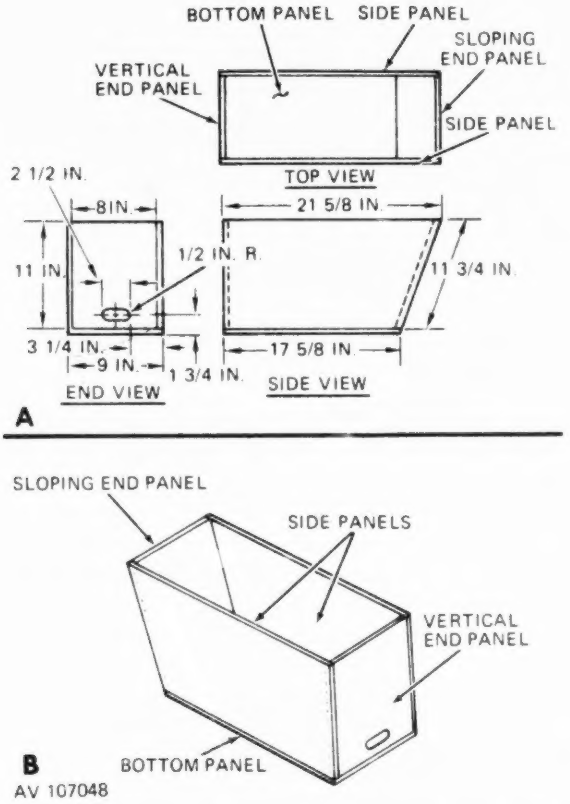
3–23. The Parachute Pack Bag

a. General. The pack bag which is used to contain a packed 38-foot-diameter RCAT cargo parachute is designed for one-time use only. As a result, the pack bag does not require any maintenance function, other than replacement, to be performed.

b. Fabrication. A 38-foot-diameter RCAT cargo parachute pack bag may be initially obtained or replaced by fabricating as follows:

(1) Cut three pieces of flexible waterproofed barrier material according to the pattern details in A, figure 3-59.

(2) Cut a 4 1/2-inch length of 2-inch-wide pressure-sensitive tape and center the tape length at a point 1 1/4 inches up from the lower edge of the 9-inch-wide by 18-inch-long vertical end panel.



Fabrication specifics. *B. Box assembled.*

Figure 3–58. Parachute packing box construction details, 38-foot-diameter RCAT cargo parachute.

(3) Using the details in A, figure 3-59, cut a 2 1/2-inch-long slot in the center of the tape reinforcement on the lower end of the vertical panel.

(4) Fold and assemble the bag panels with the bag seam edges facing in. Secure each of the bag seams with a suitable length of 2-inch-wide pressure-sensitive tape.

(5) At the top end of each seam, add a 2-inch-long seam reinforcement, using 2-inch-wide pressure-sensitive tape.

3–24. The Bridle Line

a. Inspection. Inspect a 24 1/2-inch-long bridle line used with the 38-foot-diameter RCAT cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 24 1/2-inch-long bridle line by cleaning the line webbing in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Restitching.* Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-33.

(2) *Restencil.* As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

d. Replacement. Replace an unserviceable bridle line by fabricating as follows:

(1) Cut a 30 1/2-inch length of 1-inch-wide tubular nylon webbing and sear the ends.

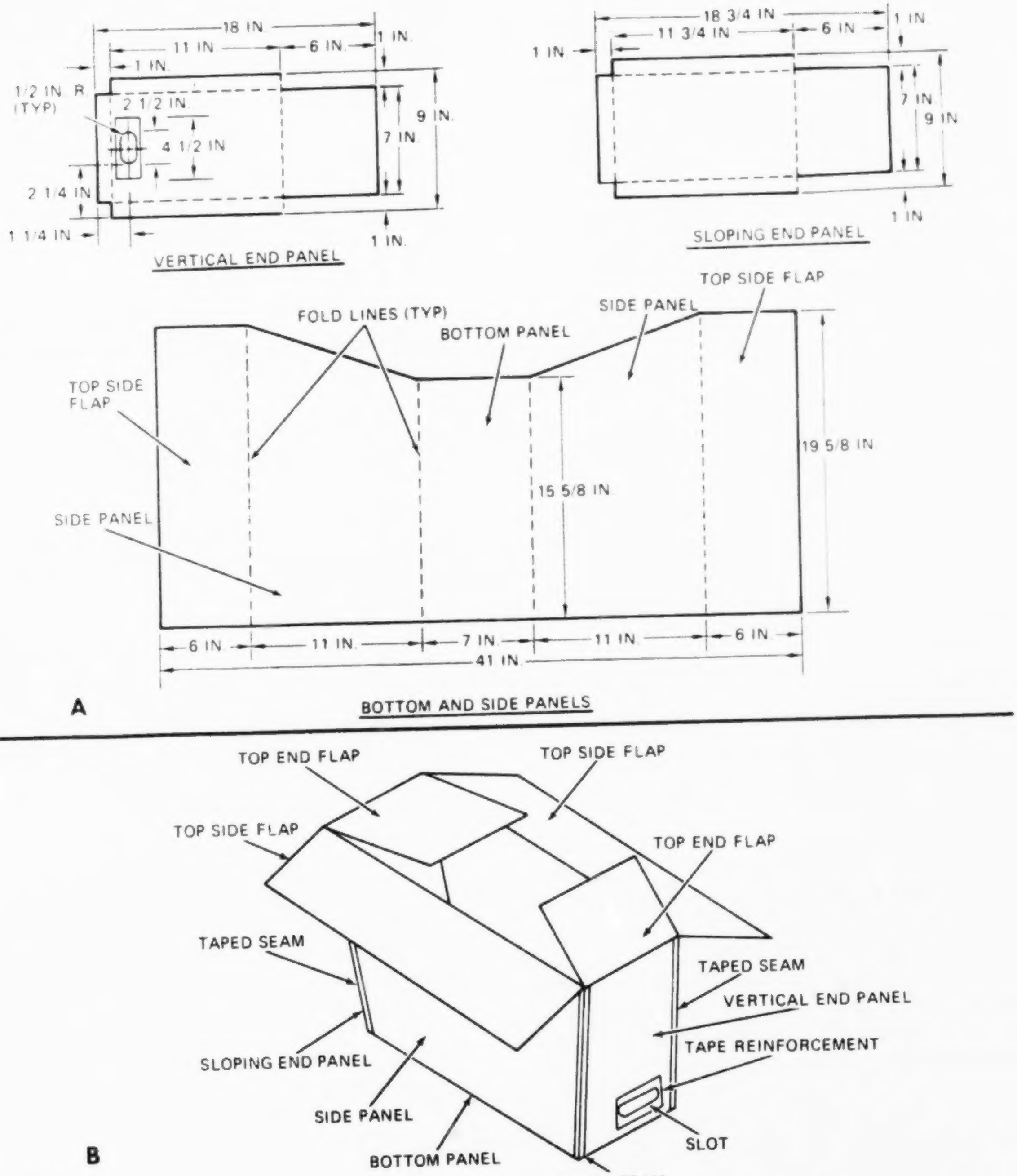
(2) Make a 6-inch-long foldback on one end of the webbing length. Form a 2-inch-long loop in the webbing folded end by stitching the foldback with two 3/16-inch-wide by 4-inch-long rows of double-throw zigzag stitching according to the details in figure 3-60, using the specifics in table 3-3.

(3) Attach the webbing length to the canopy vent lines by passing the webbing running end around all the vent lines, through the 2-inch-long loop formed on the opposite end of the webbing length, and drawing the webbing taut.

(4) Remove the original bridle line by untieing the bowline knot which secures the line running end to the pilot parachute bridle loop, if applicable, and reversing the procedures in (3) above.

3–25. The Parachute Canopy

a. Inspection. Inspect a 38-foot-diameter RCAT cargo parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.


18 IN.
11 IN.
6 IN.
1 IN.
1 IN.
1/2 IN. R
(TYP)
2 1/2 IN.
4 1/2 IN.
7 IN.
9 IN.
2 1/4 IN.
1 1/4 IN.
1 IN.
VERTICAL END PANEL
18 3/4 IN.
11 3/4 IN.
6 IN.
1 IN.
1 IN.
7 IN.
9 IN.
1 IN.
SLOPING END PANEL
TOP SIDE FLAP
SIDE PANEL
FOLD LINES (TYP)
BOTTOM PANEL
TOP SIDE FLAP
SIDE PANEL
15 5/8 IN.
19 5/8 IN.
6 IN.
11 IN.
7 IN.
11 IN.
6 IN.
41 IN.
A
BOTTOM AND SIDE PANELS
TOP END FLAP
TOP SIDE FLAP
TOP SIDE FLAP
TOP END FLAP
TAPED SEAM
TAPED SEAM
VERTICAL END PANEL
TAPE REINFORCEMENT
SLOPING END PANEL
SIDE PANEL
SLOT
BOTTOM PANEL
TAPED SEAM
B

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A. Pattern specifics.

B. Bag assembled

Figure 3–59. Parachute packing bag construction details, 38-foot-diameter RCAT cargo parachute.

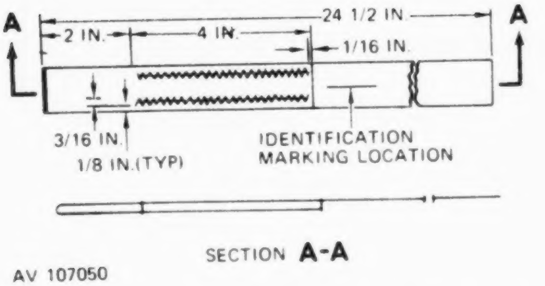

Figure 3–60. Bridle line construction details, 38-foot-diameter RCAT cargo parachute.

b. Service. Service a 38-foot-diameter RCAT cargo parachute canopy by cleaning and drying the canopy and associated canopy components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 38-foot-diameter RCAT cargo parachute canopy which requires the cutting of stitching or an original part, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Gore section.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Each gore section may be darned a maximum of three times.

(c) Patching. Patch a hole or tear that exceeds 3/4 inch according to the limitations and the procedures prescribed in TM 10-1670-201-23/TO 13C-1-41, using type I, 1.1-ounce nylon parachute cloth and the specifics in table 3-3. Each gore section is limited to three patches.

(d) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(e) Replacement. Replace an unserviceable gore section by fabrication using gore section replacement procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-33.

(2) *Skirt reinforcement (lower lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a damaged skirt reinforcement (lower lateral band) according to the lower lateral band splicing limitations and procedures in TM 10-1670-201-23/TO 13C-1-41, using 1-inch-wide tubular nylon webbing and the specifics in table 3-3.

(3) *Radial seam.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Patching. Patch a hole or tear in a radial seam as prescribed in TM 10-1670-201-23/TO 13C-1-41, using type I, 1.1-ounce nylon parachute cloth and the specifics in table 3-3.

(4) *Canopy line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable canopy line by fabrication as prescribed in TM 10-1670-201-23/TO 13C-1-41, using type II nylon cord and the specifics in table 3-3.

(5) *Skirt hesitator band.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable skirt hesitator band by fabricating as follows:

1 Remove the original skirt hesitator band by cutting the stitching which secures the band to the radial seam.

NOTE

In some instances, the original skirt hesitator band may be located on radial seam 20. However, when the hesitator band is to be replaced, the replacement item will be attached to radial seam 19.

2 Cut a 14 3/8-inch-length of 1-inch-wide, type I tubular nylon tape.

3 Make a 3 1/8-inch-long foldback with a 3/8-inch-long turnunder on each end of the tape length (fig. 3-61).

4 Secure the 2 3/4-inch long formed loop on each end of the tape length by stitching a 1 5/8-inch-long single-X-box-stitch formation, with two double ends, according to the details in figure 3-61. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Attach the skirt hesitator band on radial seam 19 by stitching a 5/16-inch-wide by 3 1/4-inch-long row of double-throw zigzag stitching according to the details in figure 3-62, using the specifics in table 3-3.

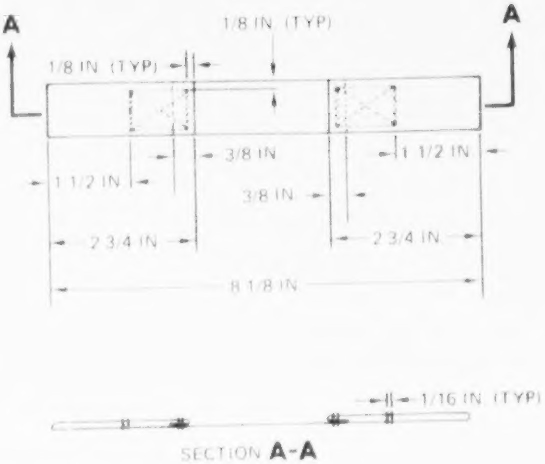

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Figure 3-61. Skirt hesitator band construction details, 38-foot-diameter RCAT cargo parachute.

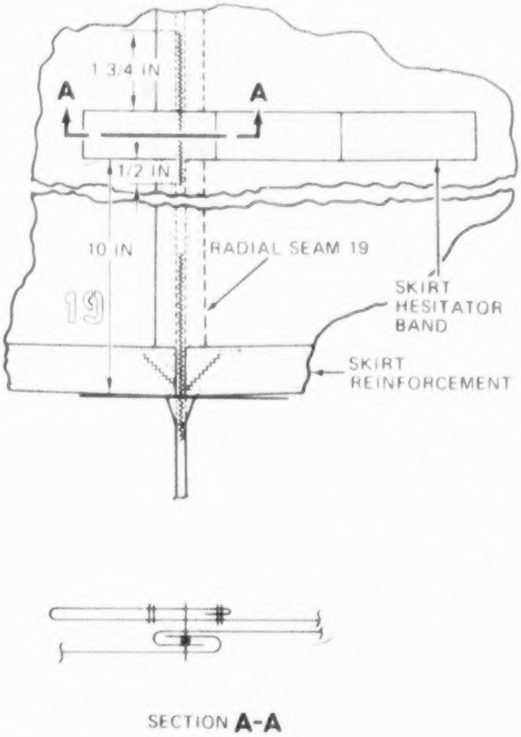

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Figure 3-62. Skirt hesitator band attachment details, 38-foot-diameter RCAT cargo parachute.

(6) *Dee ring.* An unserviceable dee ring on the lower end of each suspension line group will be replaced as follows:

CAUTION

When cutting the stitching to remove a suspension line from a dee ring on the 38-foot-diameter RCAT cargo parachute, insure the suspension line is not damaged during the cutting process.

(a) Remove the original dee ring from the applicable suspension line group by cutting the stitching and untieing the knot which secures each individual suspension line to the dee ring. Insure the suspension lines do not become disarranged or entangled while being removed from a dee ring.

(b) Replace the unserviceable dee ring with a serviceable item from stock.

(c) Locate the serviceable dee ring at the lower end of the original suspension line group and attach each suspension line to the dee ring with two half-hitches according to original attaching details. Allow at least a 2-inch-long running end to extend from the formed knot. Insure the lines are in proper order prior to attachment.

(d) Beginning at the knot made in *(c)* above, secure the tie running end of each suspension line to the line length by stitching a 3/16-inch-wide by 2-inch-long row of double-throw zigzag stitching. Stitching will be made using the specifics in table 3-3.

(7) *Butterfly tab.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable butterfly tab by fabricating as follows:

1 Remove the original butterfly tab by cutting the stitching which secures the tab to the suspension line.

NOTE

In some instances, the original butterfly tab may be located on suspension line 20. However, when the tab is to be replaced, the replacement item will be attached to suspension line 19.

2 Cut a 7-inch length of 1-inch-wide, type I tubular nylon tape.

3 Make a 1 7/8-inch-long foldback on one end of the tape length. On the opposite end, make a 2 5/16-inch-foldback with a 3/8-inch-long turnunder (fig. 3-63).

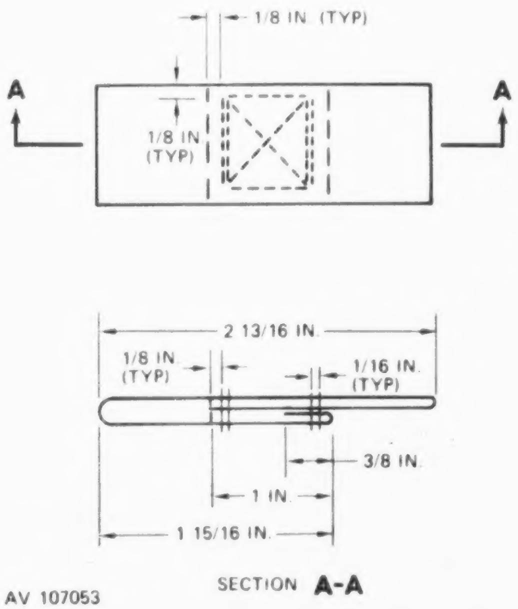


Figure 3-63. Butterfly tab construction details, 38-foot-diameter RCAT cargo parachute.

4 Secure the folded tape length by stitching a 3/4-inch-long single-X-box-stitch formation, with two double ends, according to the details in figure 3-63. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Attach the butterfly tab to suspension line 19 by stitching a 5/16-inch-wide by 2-inch-long row of double-throw zigzag stitching according to the details in figure 3-64, using the specifics in table 3-3.

(8) *Suspension line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

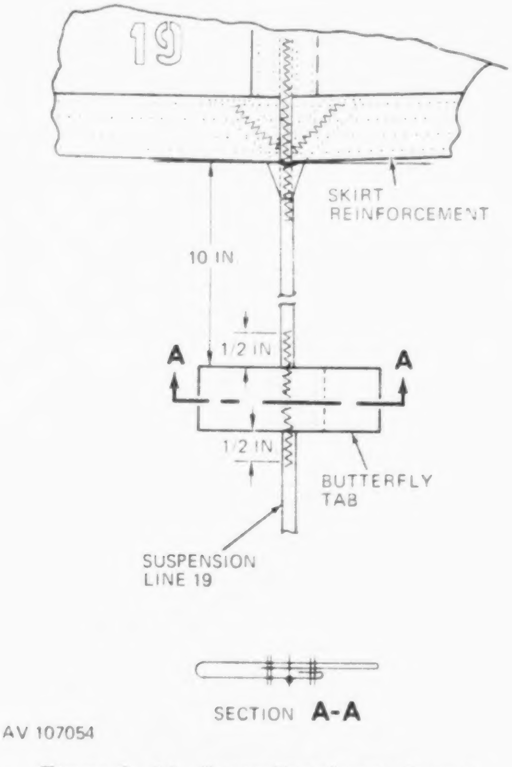


Figure 3–64. Butterfly tab attachment details, 38-foot-diameter RCAT cargo parachute.

(b) Splicing. A suspension line may be spliced one time using the procedures in TM 10-1670-201-23/TO 13C-1-41 and type II nylon cord. Stitching will be made using the specifics in table 3-3.

(9) *Vent line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vent line may be spliced one time using the procedures in TM 10-1670-201-23/TO 13C-1-41 and type II nylon cord. Stitching will be made using the specifics in table 3-3.

(10) *Vent reinforcement (upper lateral band).*

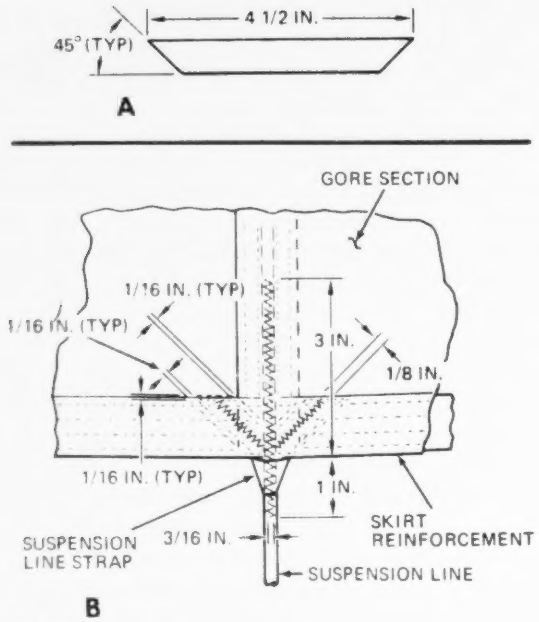
(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vent reinforcement (upper lateral band) will be spliced using the upper lateral band splicing limitations and procedures in TM 10-1670-201-23/TO 13C-1-41 and 1-inch-wide tubular nylon webbing. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(11) *Suspension line strap (V-tab).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unservicable suspension line strap (V-tab) by fabrication according to V-tab replacement procedures outlined in TM 10-1670-201-23/TO 13C-1-41 and the details in figure 3-65, using a 4 1/2-inch length of 9/16-inch-wide, type I nylon webbing



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A. Fabrication specifics.
B. Installation details.

Figure 3–65. Suspension line strap replacement details, 38-foot-diameter RCAT cargo parachute.

with waxed ends. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. An unserviceable 38-foot-diameter RCAT cargo parachute canopy will only be replaced as prescribed by Appendix C.

3–26. The Pilot Parachute

a. Inspection. Inspect a 36-inch-diameter nylon pilot parachute used with the 38-foot-diameter RCAT cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 36-inch-diameter pilot parachute by cleaning and drying the parachute as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 36-inch-diameter pilot parachute which requires the cutting of stitching, insure that adjacent parachute material is not damaged during the cutting process.

(1) *Restitching.* Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(2) *Darning.* Darn a hole or tear which does not exceed 3/4 inch in length or diameter according to TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Each vane, gore panel, or the parachute cap may be darned a maximum of three times.

(3) *Retacking.* As required, retack the bottom coil of the pilot parachute spring at four points using two turns double ticket No. 5 waxed cotton thread at each point. Secure each of the tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(4) *Restencil.* As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

d. Replacement. Replace an unserviceable 36-inch-diameter nylon pilot parachute with a serviceable item from stock.

Section IX. THE G-12C AND G-12D 64-FOOT-DIAMETER CARGO PARACHUTES

3–27. The Parachute Canopy

a. Inspection. Inspect a 64-foot-diameter cargo parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 64-foot-diameter cargo parachute by cleaning and drying the canopy and associated canopy components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 64-foot-diameter cargo parachute canopy which requires the cutting of stitching or an original part, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Suspension clevis.*

(a) Replacing a nut or screw. Replace a defective or missing 3/4-inch -16NF hexagon plain nut or 4 1/2-inch-long 3/4-inch -16NF hexagon cap screw with a serviceable item from stock.

(b) Replacement. Replace an unserviceable 3/4-inch suspension clevis with a serviceable item from stock.

(2) *Gore section.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter as outlined in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Each gore section may be darned a maximum of three times.

(c) Patching. Patch a hole or tear which exceeds 3/4 inch according to the limitations and procedures outlined in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3, if applicable.

NOTE

A gore section of the 64-foot-diameter G-12C and G-12D cargo parachute canopy may be patched by two methods. One method is by use of adhesive nylon parachute mending cloth that does not require stitching. The second method of patching requires stitching and the patch material will be of type I 2.25-ounce nylon parachute cloth.

(d) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(e) Replacement. Replace a gore section which is damaged beyond repair by fabricating according to gore section replacement procedures outlined in TM 10-1670-201-23/TO 13C-1-41, using type I 2.25-ounce nylon parachute cloth and the specifics in table 3-3.

(3) *Skirt reinforcement (lower lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a damaged skirt reinforcement (lower lateral band) according to lower lateral band splicing limitations and

procedures in TM 10-1670-201-23/TO 13C-1-41, using 1-inch-wide tubular nylon webbing and the specifics in table 3-3.

(4) *Vent reinforcement (upper lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a damaged vent reinforcement (upper lateral band) according to upper lateral band splicing limitations and procedures in TM 10-1670-201-23/TO 13C-1-41, using 1-inch-wide tubular nylon webbing and the specifics in table 3-3.

(5) *Radial seam.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Patching. Patch a hole or tear in a radial seam using the limitations and procedures in TM 10-1670-201-23/TO 13C-1-41 and type I 2.25-ounce nylon parachute cloth. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(6) *Canopy line.*

(a) General. A canopy line is a length of nylon cord which extends from a point of attachment on a connector link assembly on one side of the canopy, up through a canopy radial seam channel, across the canopy vent, and down through a canopy radial seam to a connector link assembly on the opposite side of the canopy.

(b) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

CAUTION

The radial line portion of a canopy line will not be spliced. Whenever a canopy line is to be spliced, the splice will be located either above the vent reinforcement or below the skirt reinforcement.

(c) Splicing. The vent line and suspension line portions of a canopy line may be spliced, with one splice permitted in each vent line and suspension line length. A suspension line which is damaged beyond repair or which exceeds the one splice limitation, will be replaced by splicing one end of a replacement line length to the original vent line. The replacement line running end will then be routed down through the original seam channel and attached to the original connector link according to original attaching details. A radial line portion of a canopy line that is damaged within a radial seam will be replaced by splicing one end of the replacement line length to the original vent line. The replacement radial line running end will then be routed down through the original radial seam channel and spliced onto the upper end of the original suspension line. All splicing on any portion of a canopy line will be performed as prescribed in TM 10-1670-201-23/TO 13C-1-41, using type IV coreless nylon cord and the specifics in table 3-3.

(d) Replacement. Replace a canopy line by fabricating according to procedures outlined in TM 10-1670-201-23/TO 13C-1-41, using type IV coreless nylon cord and the specifics in table 3-3.

(7) *Bridle loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable bridle loop by fabricating as follows:

1 **Deleted.**

2 Cut a 30-inch length of 1 3/4-inch-wide, type X cotton webbing and wax the ends.

3 Pass one end of the webbing through all of the canopy vent lines and join both webbing ends together above the vent lines with a 5-inch-long overlap.

4 Beginning at a point 1/8 inch back from one overlapped webbing end, secure the overlapped ends together by stitching a 4 3/4-inch-long three-point-WW-stitch formation to a point 1/8 inch back from the opposite overlapped webbing end (fig. 3-66). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 **Deleted.**

6 Remove the original bridle loop by cutting the loop webbing.

(8) *Hesitator tab (G-12C).*

NOTE

> The hesitator tab is required on suspension line 32 of a 64-foot-diameter cargo parachute canopy if the canopy is to be used with a G-12C cargo parachute pack.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

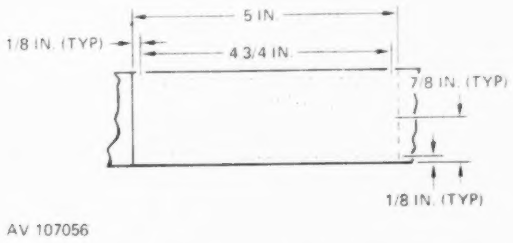


Figure 3-66. Bridle loop replacement details, G-12C and G-12D 64-foot-diameter cargo parachutes.

(b) Replacement. As required, replace a damaged or missing hesitator tab by fabricating as follows:

1 If applicable, remove the original hesitator tab by cutting the stitching which secures the tab to suspension line 32.

2 Cut an 8 1/4-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

3 Make a 2 3/8-inch-long foldback on each end of the webbing length and overlap the webbing ends by 1 inch.

4 Secure the overlapped webbing ends and form a loop on each end of the folded webbing by stitching a 3/4-inch-long box-stitch formation according to the details in figure 3-67. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 At a point 18 inches below the lower edge of the canopy skirt reinforcement (lower lateral band), center the formed hesitator tab, with the overlapped ends facing down, across suspension line 32. Secure the tab to the suspension line by stitching a 3/16-inch-wide by 1 3/4-inch-long row of double-throw zigzag stitching, using the specifics in table 3-3.

(9) *Parachute inspection data pocket (log record pocket).*

NOTE

All inspection data pockets that are located on the bridle loop shall be removed and relocated to a riser. Pocket shall be located 1 1/2 inches above the keeper at the clevis attaching loop. This may be accomplished during repack cycle.

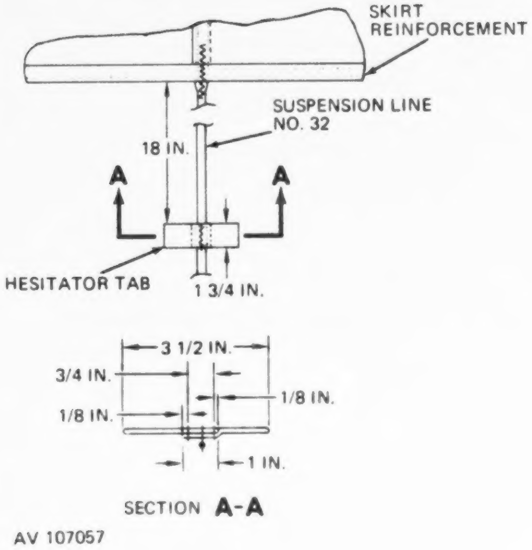


Figure 3–67. Hesitator tab replacement details, G-12C 64-foot-diameter cargo parachute.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Retacking. **As required, retack a parachute inspection data pocket (log record pocket) to a riser as prescribed in note above and TM 10-1670-201-23/TO 13C-1-41.**

(c) Replacement. Replace a missing or unserviceable parachute inspection data pocket with a serviceable item from stock.

(10) *Pocket band.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable pocket band by fabricating according to TM 10-1670-201-23/TO 13C-1-41, using a 7 7/8-inch length of type IV coreless nylon cord and the specifics in table 3-3.

(11) *Radial seam reinforcement tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged radial seam reinforcement tape by fabricating as follows:

1 Remove the original radial seam reinforcement tape by cutting the stitching which secures the tape to the radial seam.

2 Cut a 2 5/16-, 4 1/4-, or 7 1/2-inch length, as applicable, of 1/2-inch-wide, type III nylon tape.

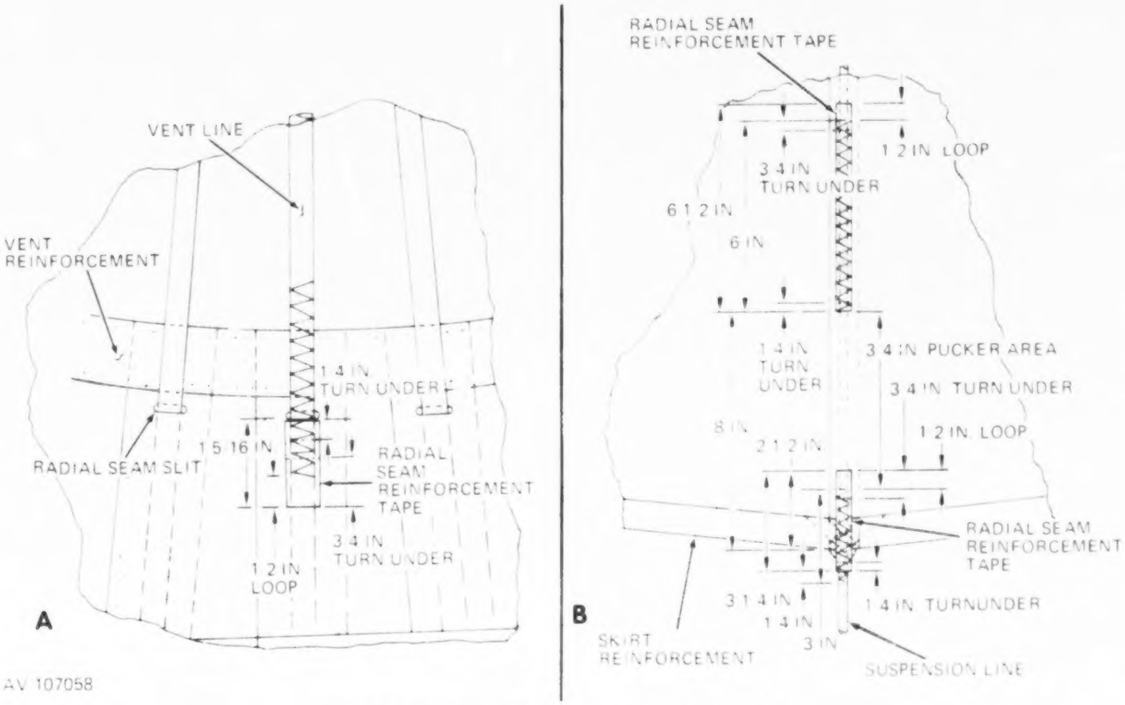
3 Make a 3/4-inch turnunder on one end of the tape length and a 1/4-inch turnunder on the opposite end.

4 Position the folded tape length in the original reinforcement tape location on the radial seam, with the turnunders facing down and the folded end with the 3/4-inch turnunder facing away from the vent reinforcement (upper lateral band) (A, fig. 3-68) or skirt reinforcement (lower lateral band) (B), whichever is nearest.

5 Secure the applicable reinforcement tape to the radial seam and the radial line by stitching a 1/4-inch-wide double-throw zigzag stitch formation according to original construction details and the details in figure 3-68, using the specifics in table 3-3.

NOTE

A 3/4-inch pucker will be allowed in the radial seam fabric between the two reinforcement tape stitch formations at the lower end of the radial seam.


VENT LINE
VENT REINFORCEMENT
1/4 IN TURN UNDER
1 5/16 IN
RADIAL SEAM SLIT
RADIAL SEAM REINFORCEMENT TAPE
3/4 IN TURN UNDER
1/2 IN LOOP
A
AV 107058
RADIAL SEAM REINFORCEMENT TAPE
1/2 IN LOOP
3/4 IN TURN UNDER
6 1/2 IN
6 IN
1/4 IN TURN UNDER
3/4 IN PUCKER AREA
3/4 IN TURN UNDER
8 IN
2 1/2 IN
1/2 IN LOOP
RADIAL SEAM REINFORCEMENT TAPE
B
3 1/4 IN
1/4 IN
3 IN
1/4 IN TURNUNDER
SKIRT REINFORCEMENT
SUSPENSION LINE

A. Reinforcement tape on radial seam upper end.
B. Reinforcement tape on radial seam lower end.

Figure 3–68. Radial seam reinforcement tape replacement details, G-12C and G-12D 64-foot-diameter cargo parachutes.

(12) *Riser.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(c) Retacking. Retack the buffer on the clevis attaching loop end of a riser at each of the original three tacking points using one turn double, ticket No. 5 waxed cotton thread at each point. Secure the tacking ends at each point with a surgeon's knot and a locking knot. Trim tie ends to 1/4 inch.

(d) Replacing a clevis attaching loop buffer. Replace a damaged clevis attaching loop buffer by fabricating as follows:

1 If applicable, remove the attaching loop from the suspension clevis.

2 Remove the original buffer from the clevis attaching loop by cutting the tacking which secures the buffer within the loop.

3 Cut an 8 3/4-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

4 Double the webbing length and aline the ends. At a point 1/4 inch back from the alined ends, secure the webbing ends together by stitching two rows laterally across the webbing width. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Position the folded webbing length in the original buffer location and secure the webbing within the attaching loop by

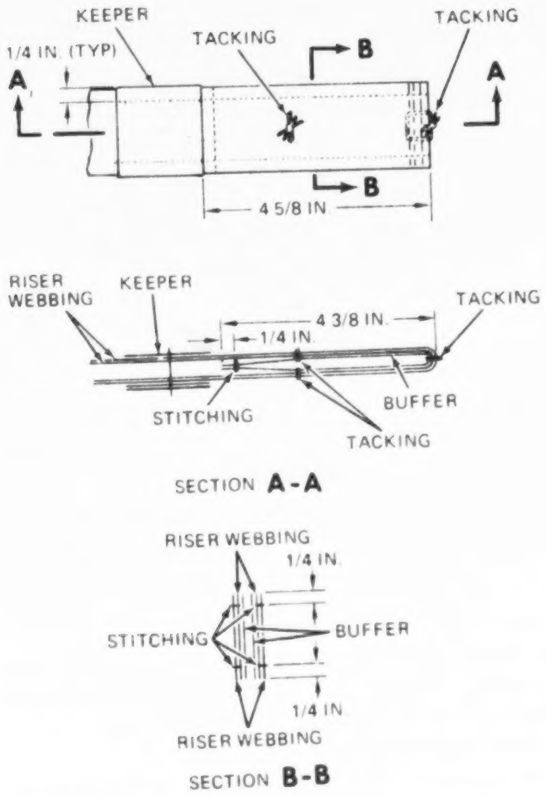


Figure 3–69. Clevis attaching loop buffer replacement details, G-12C and G-12D 64-foot-diameter cargo parachutes.

handtacking at three points according to the details in figure 3-69 and using the procedures in (*c*) above.

(e) Repairing a connector link assembly. Repair a connector link assembly on a riser as prescribed in TM 10-1670-201-23/TO 13C-1-41. In addition and as required, tighten the connector link screws using a suitable sized flat-tip (common-head) screwdriver.

(f) Replacing a connector link assembly. Replace an unserviceable or missing connector link assembly with a serviceable item from stock, using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(g) Replacing a riser. Replace an unserviceable riser with a serviceable item from stock.

(13) *Skirt hesitator (G-12C).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a missing or unserviceable skirt hesitator by fabricating as follows:

NOTE

The skirt hesitator is required on radial seam 32 of the 64-foot-diameter parachute canopy if the canopy is to be used with a G-12C cargo parachute pack.

1 If applicable, remove the original skirt hesitator by cutting the stitching which secures the hesitator to radial seam 32.

2 Cut a 31 1/2-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

3 Make an 8 1/4-inch-long foldback on each end of the webbing length and overlap the webbing ends by 1 3/4 inches.

4 Secure the overlapped webbing ends and form a loop on each end of the folded webbing by stitching a 4 3/4-inch-long box-stitch formation on each end according to the details in figure 3-70. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

CAUTION

When attaching a skirt hesitator to radial seam 32, insure the attachment stitching does not contact or pass through the radial line.

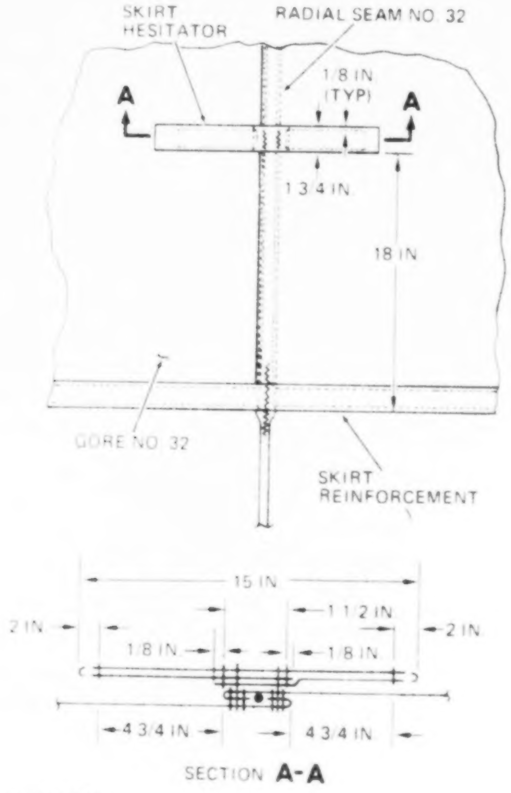

SKIRT HESITATOR
RADIAL SEAM NO. 32
A
A
1/8 IN (TYP)
1 3/4 IN
18 IN
GORE NO. 32
SKIRT REINFORCEMENT
15 IN
1 1/2 IN
2 IN
2 IN
1/8 IN
1/8 IN
4 3/4 IN
4 3/4 IN
SECTION A-A

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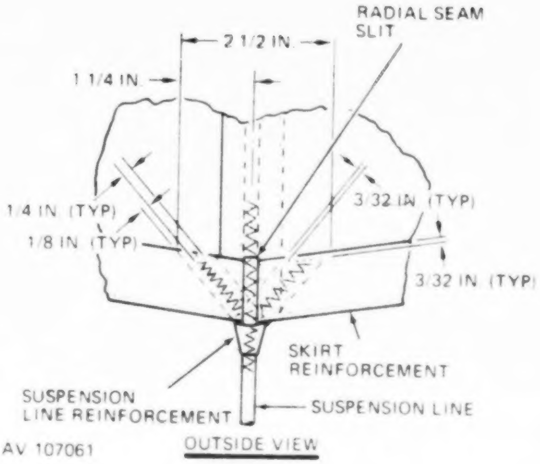
Figure 3–70. Skirt hesitator replacement details, G-12C 64-foot-diameter cargo parachute.

5 At a point 18 inches above the lower edge of the canopy skirt reinforcement (lower lateral band), center the constructed hesitator, with the overlapped ends facing down, across radial seam 32. Secure the hesitator to the radial seam and radial line by stitching two 1/4-inch-wide by 1 3/4-inch-long rows of double-throw zigzag stitching 1/8 inch in from each edge of the radial seam. Stitching will be made using the specifics in table 3-3.

(14) *Suspension line reinforcement (V-tab).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.


RADIAL SEAM SLIT
2 1/2 IN
1 1/4 IN
1/4 IN (TYP)
1/8 IN (TYP)
3/32 IN (TYP)
3/32 IN (TYP)
SKIRT REINFORCEMENT
SUSPENSION LINE REINFORCEMENT
SUSPENSION LINE
OUTSIDE VIEW

AV 107061

Figure 3–71. Suspension line reinforcement replacement details, G-12C and G-12D 64-foot-diameter cargo parachutes.

(b) Replacement. Replace an unserviceable suspension line reinforcement (V-tab) by fabricating according to V-tab replacement procedures outlined in TM 10-1670-201-23/TO 13C-1-41 and the details in figure 3-71, using a 5-inch length of 1/2-inch-wide tubular nylon webbing with seared ends. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

3–28. The G-12D Deployment Bag

a. Inspection. Inspect a deployment bag used with the G-12D 64-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a G-12D 64-foot-diameter cargo parachute deployment bag by cleaning the bag material in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a G-12D 64-foot-diameter cargo parachute deployment bag which requires the cutting of stitching or an original part, insure that adjacent bag material is not damaged during the cutting process.

(1) *Bridle breakcord attaching loop buffer.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bridle breakcord attaching loop buffer by fabricating as follows:

1 Remove the original buffer from within the bridle breakcord attaching loop by cutting the stitching which secures the buffer to the loop.

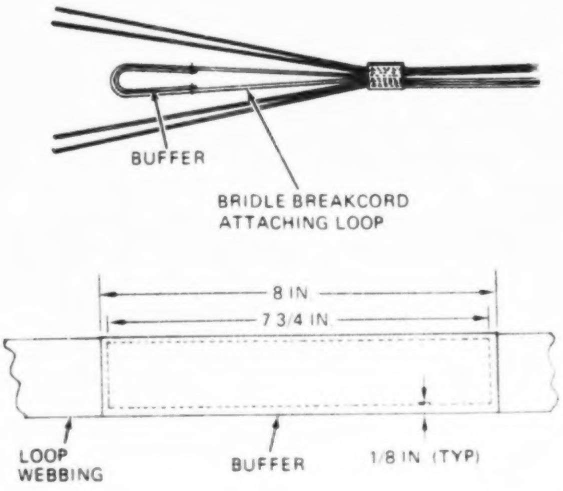
2 Cut an 8-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

3 Position the webbing length in the original buffer location and secure the replacement buffer to the loop webbing by stitching a 7 3/4-inch-long box-stitch formation 1/8 inch in from each edge according to the details in figure 3-72. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(2) *Bag closing loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged main bag closing loop or secondary bag closing loop on the bag top and bottom closing flaps, or a closing loop on a side flap by fabricating as follows:



AV 107062

Figure 3-72. Bridle breakcord attaching loop buffer replacement details, G-12D 64-foot-diameter cargo parachute deployment bag.

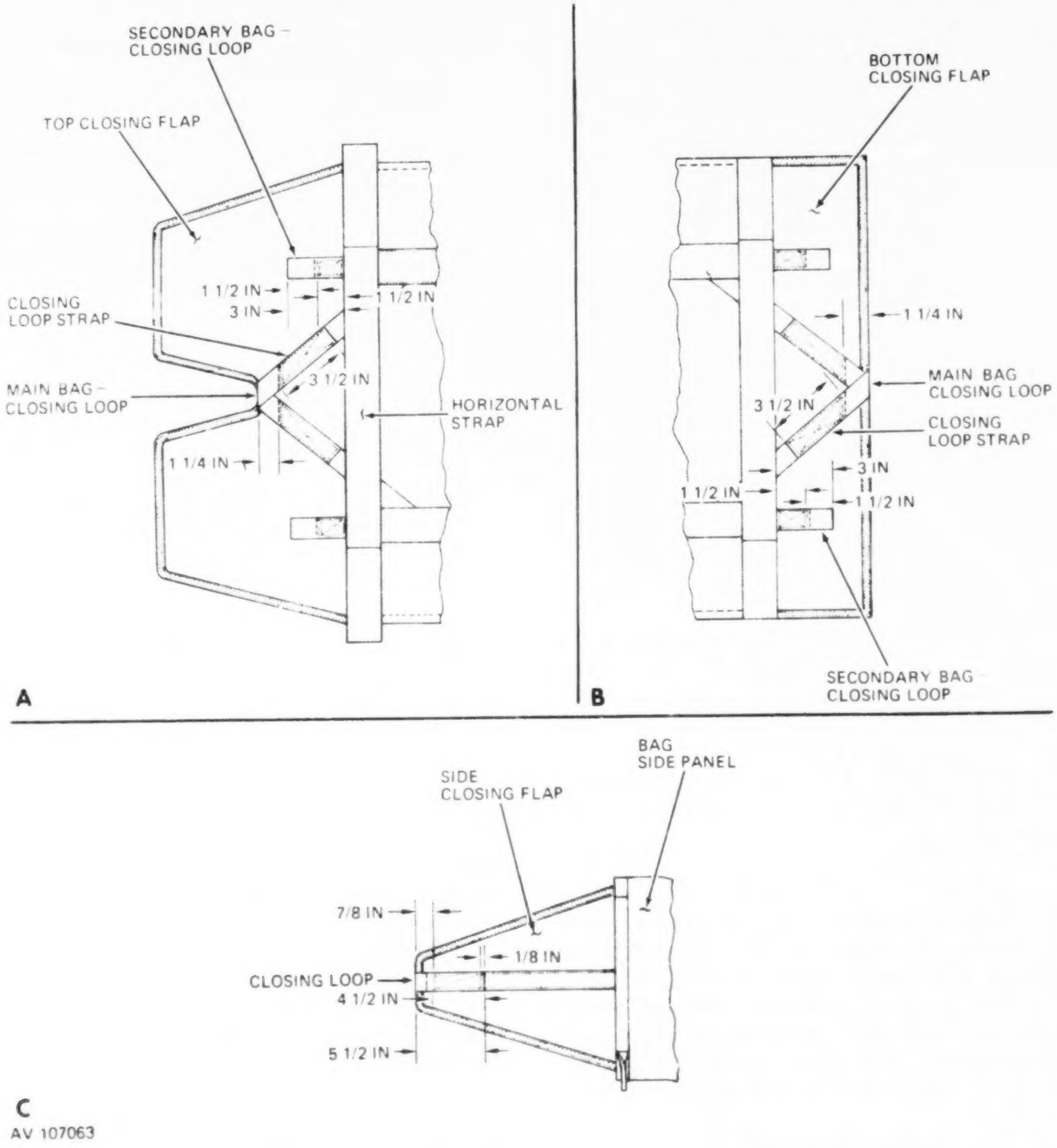
1 Main bag closing loop.

(a) Remove the damaged loop by cutting the loop webbing at a point adjacent to each of the original stitch formations which secures the loop webbing to the top or bottom closing flap, as applicable.

(b) Cut a 9 1/2-inch length of 1-inch-wide, type XVII nylon webbing and sear the ends.

(c) Form the replacement loop by folding the webbing length according to the details in A or B, figure 3-73, as applicable.

(d) Position the folded webbing in the original loop location and allow the webbing ends to extend over the remaining original loop webbing ends stitched to the closing flap.


SECONDARY BAG – CLOSING LOOP
TOP CLOSING FLAP
1 1/2 IN
3 IN
1 1/2 IN
CLOSING LOOP STRAP
MAIN BAG – CLOSING LOOP
3 1/2 IN
HORIZONTAL STRAP
1 1/4 IN
A
BOTTOM CLOSING FLAP
1 1/4 IN
MAIN BAG CLOSING LOOP
3 1/2 IN
CLOSING LOOP STRAP
3 IN
1 1/2 IN
1 1/2 IN
SECONDARY BAG – CLOSING LOOP
B
BAG SIDE PANEL
SIDE CLOSING FLAP
7/8 IN
1/8 IN
CLOSING LOOP
4 1/2 IN
5 1/2 IN
C
AV 107063

A. Top closing flap closing loops.
B. Bottom closing flap closing loops.
C. Side flap closing loop.

Figure 3–73. Bag closing loop replacement details, G-12D 64-foot-diameter cargo parachute deployment bag.

(e) Secure the folded webbing to the closing flap by stitching a 3 1/2-inch-long single-X-box-stitch formation, with one double end, on each of the webbing ends according to original construction details and the details in A or B, figure 3-73, as applicable. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

2 Secondary bag closing loop.

(a) Remove the damaged loop by cutting the loop webbing at a point adjacent to the original stitch formation securing the loop webbing to the top or bottom closing flap, as applicable.

(b) Cut a 6-inch length of 1-inch-wide, type XVII nylon webbing and sear the ends.

(c) Double the webbing length and position the folded webbing in the original loop location over the remaining original stitched webbing. Locate the alined ends of the folded webbing against the outer edge of the bag end horizontal strap.

(d) Secure the alined running ends of the doubled webbing length to the closing flap by stitching a 1 1/2-inch-long single-X-box-stitch formation, with one double end, according to the details in A or B, figure 3-73, as applicable. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

3 Side flap closing loop.

(a) Remove the damaged loop by cutting the loop webbing at a point adjacent to the original stitch formation securing the loop webbing to the side closing flap.

(b) Cut an 11-inch length of 1-inch-wide, type XVII nylon webbing and sear the ends.

(c) Double the webbing length and position the folded webbing in the original loop location over the remaining original stitched webbing. Aline the end of a webbing fold with the outer edge of the side flap.

(d) Secure the alined running ends of the doubled webbing length to the side flap by stitching a 4 1/2-inch-long single-X-box-stitch formation according to the details in C, figure 3-73. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(3) *Bridle strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A bridle strap may be spliced regardless of whether the damaged area is located on that part of the strap which is secured to the bag or on the free portion of the strap, providing 4 inches of undamaged original strap webbing remains on each side of the damaged area.

1 Cut a length of 1 23/32-inch-wide, type VIII nylon webbing long enough to extend 4 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a 4-inch-long, three-point-WW-stitch formation on each end of the splice material according to the details in figure 3-74. Overstitch each end by 1/8 inch. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

3 If the splice is made on the free portion of the strap, cut and remove the damaged area from beneath the splice material.

4 If the splice is made in an area of the strap which is secured to the bag, make a row of stitching, 3/16 inch in, along each

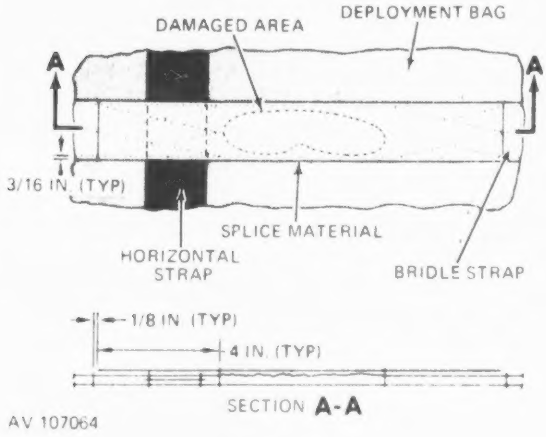


Figure 3-74. Bridle strap splicing details, G-12D 64-foot-diameter cargo parachute deployment bag.

side of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(4) *Edge binding.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a damaged edge binding according to tape edge binding splicing limitations and procedures in TM 10-1670-201-23/TO 13C-1-41, using 3/4-inch-wide, type III nylon tape and the specifics in table 3-3.

(5) *Horizontal strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A horizontal strap may be spliced an unlimited number of times as follows:

1 Cut a length of 1 3/4-inch-wide, type III nylon webbing long enough to extend 4 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a 4-inch-long three-point-WW-stitch on each end of the splice material. Overstitch eac end by 1/8 inch. In addition, make a row o stitching 3/16 inch in along each side of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(6) *Panels, flaps, and cover.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

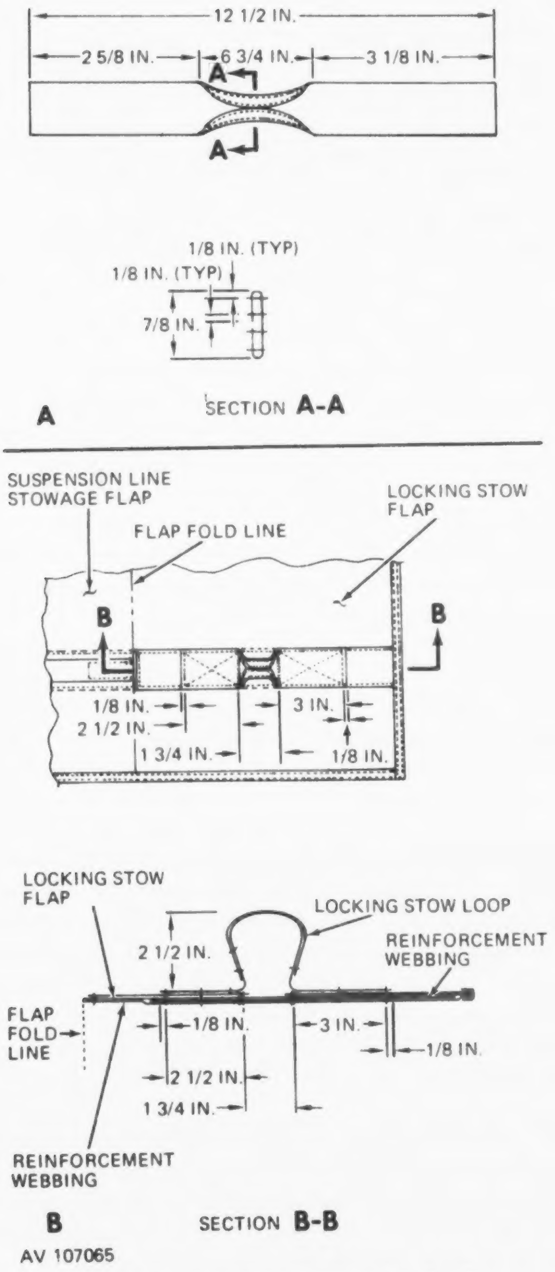
(b) Darning. Darn a hole or tear which is accessible and does not exceed 3/4 inch in length or diameter as outlined in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. There is no limit to the number c times a panel, flap, or the cover may be darne

(c) Patching. Patch a hole or tear which is accessible, as prescribed in TM 10-1670-201-23/TO 13C-1-41, using type III 7.25-ounce nylon duck cloth and the specifics in table 3-3. There is no limit to the number or size of patches applied to a panel, flap, or the cover, providing 1 1/4 inches of undamaged material remains on all sides of the damaged area.

(d) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(7) *Locking stow loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.


12 1/2 IN.
2 5/8 IN.
6 3/4 IN.
3 1/8 IN.
A
A
1/8 IN. (TYP)
1/8 IN. (TYP)
7/8 IN.
A
SECTION A-A
SUSPENSION LINE STOWAGE FLAP
FLAP FOLD LINE
LOCKING STOW FLAP
B
B
1/8 IN.
2 1/2 IN.
1 3/4 IN.
3 IN.
1/8 IN.
LOCKING STOW FLAP
LOCKING STOW LOOP
REINFORCEMENT WEBBING
2 1/2 IN.
FLAP FOLD LINE
1/8 IN.
3 IN.
1/8 IN.
2 1/2 IN.
1 3/4 IN.
REINFORCEMENT WEBBING
B
SECTION B-B
AV 107065

A. Replacement loop construction details.

B. Replacement loop attachment details.

Figure 3–75. Locking stow loop replacement details, G-12D 64-foot-diameter cargo parachute deployment bag.

(b) Replacement. Replace a damaged locking stow loop by fabricating as follows:

1 Remove the original loop by cutting the loop material at a point adjacent to each of the stitch formations securing the original loop webbing length.

2 Cut a 12 1/2-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

3 Using a suitable marking aid, mark the webbing length at a point 2 5/8 inches from one end and 3 1/8 inches from the opposite end.

4 Between the two marks made in *3* above, roll the webbing edges in to the center of the webbing width and secure each rolled edge by making a single row of stitching along the inside and outside edges of the rolled webbing, according to the details in A, figure 3-75. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Place the webbing length in the original locking stow loop location with the running ends positioned over the remaining original loop webbing ends (B). Secure each of the webbing running ends by stitching a single-X-box-stitch formation, with one-double end, according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(8) *Locking stow slot reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A locking stow slot reinforcement may be spliced an unlimited number of times as follows:

NOTE

If a locking stow slot reinforcement is damaged on both sides of the small suspension line stowage flap, a splice will be made on each side of the flap.

1 Cut a length of 1 23/32-inch-wide, type XII nylon webbing long enough to extend 1 inch beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and, if required, fold the webbing to conform to original construction details. Secure the full length of the splice material by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(9) *Suspension line retaining strap and strap loops.*

(a) Restitching. Restitch broken or loose stitching on the suspension line retaining strap according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged suspension line retaining strap or a strap loop by fabricating using the following procedures, as applicable:

NOTE

If one strap loop on the suspension line retaining strap has previously been replaced or more than one strap loop is damaged, the entire retaining strap will be replaced.

1 Suspension line retaining strap loop.

(a) Remove a damaged strap loop by cutting the loop material at a point adjacent to the stitch formation located on each end of the loop.

(b) Cut a length of 1-inch-wide, type XVII nylon webbing 2 3/4 inches longer than the distance between the inside edges of the two stitch formations which secured the original loop and sear the ends.

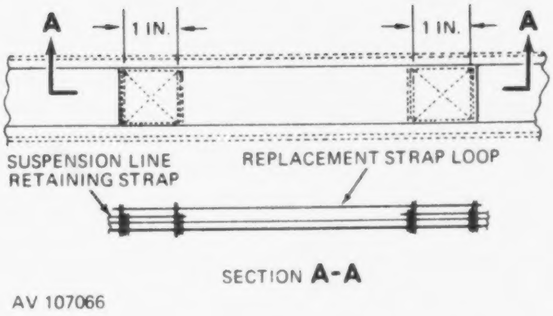


Figure 3-76. Suspension line retaining strap loop replacement details, G-12D 64-foot-diameter cargo parachute deployment bag.

(c) Using a suitable marking aid, mark the webbing length at a point 1 inch from each end.

(d) Position the webbing length in the original strap loop location with the webbing ends extending over the original loop stitch formations.

(e) On one end of the webbing length, aline the mark made in (c) above with the inside edge of the adjacent original stitch formation and secure the webbing end by stitching a 1-inch-long single-X-box-stitch formation with two double ends (fig. 3-76). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(f) Position and secure the opposite webbing end using the procedures in (e) above. Insure that 3/4 inch of slack remains in the length of the loop between each of the webbing end stitch formations.

2 Suspension line retaining strap.

(a) Remove a damaged retaining strap by cutting the strap material at a point adjacent to each of the end stitch formations and also cutting the three stitch formations securing the strap length to the stowage flap.

(b) At the locking stow flap fold line, cut a suitable amount of stitching between the locking stow loop webbing and the remaining retaining strap end to expose the edge of the original retaining strap end.

(c) Cut a 32 3/4-inch length of 1-inch-wide, type XVII nylon webbing and sear the ends.

(d) Place the webbing length in the original retaining strap location with the ends extending over the remaining original strap ends. One webbing end will be located on top of the stowage flap edge binding and alined with the flap outer edge.

(e) Secure each webbing end by stitching according to original construction details and figure 3-77. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(f) Form and secure the loops in the retaining strap by stitching a 1-inch-long single-X-box-stitch formation, with two double ends, at three points according to original construction details and figure 3-77. Insure that 3/4 inch of slack remains in the length of each loop between each of the stitch formations. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

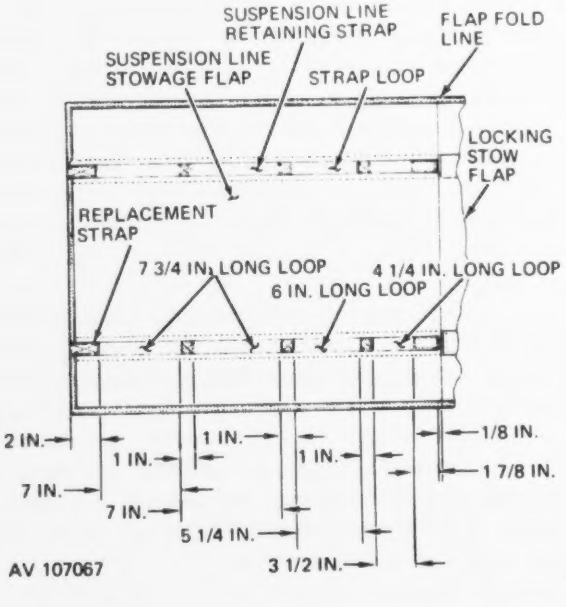


Figure 3–77. Suspension line retaining strap replacement details, G-12D 64-foot-diameter cargo parachute deployment bag.

(g) Replace the stitching removed in (b) above by restitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(10) *Suspension line retaining strap reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A suspension line retaining strap reinforcement may be spliced an unlimited number of times as follows:

1 On the outside of the suspension line stowage flap, cut and remove all applicable stitching securing the suspension line retaining strap within 5 inches on either side of the damaged area on the suspension line retaining strap reinforcement located on the opposite side of the flap. Position the retaining strap to one side.

2 Cut a length of 1 23/32-inch-wide, type VIII nylon webbing long enough to extend 4 inches beyond each side of the damaged area and sear the ends.

3 Fold the stowage flap back to locate the reinforcement facing out and center the webbing length over the damaged area on the reinforcement.

4 Secure each end of the webbing length by stitching a 4-inch-long, three-point-WW-stitch formation according to figure 3-78. Overstitch each end of the splice material by 1/8 inch. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

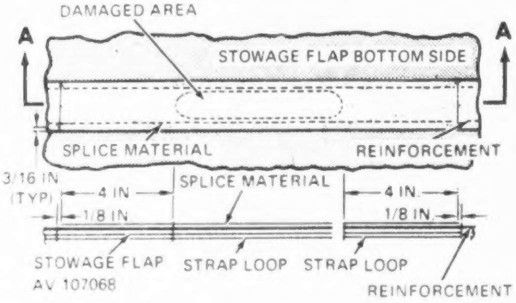

DAMAGED AREA
A
A
STOWAGE FLAP BOTTOM SIDE
SPLICE MATERIAL
REINFORCEMENT
3/16 IN (TYP)
4 IN
1/8 IN
SPLICE MATERIAL
4 IN
1/8 IN
STOWAGE FLAP
STRAP LOOP
STRAP LOOP
REINFORCEMENT
AV 107068

Figure 3–78. Suspension line retaining strap reinforcement splicing details, G-12D 64-foot-diameter cargo parachute deployment bag.

5 Turn the stowage flap to place the retaining strap facing out and reposition the retaining strap in the original location. Secure the retaining strap by restitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(11) *Cluster tie webbing.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged cluster tie webbing by fabricating as follows:

1 Remove the original cluster tie webbing length by cutting the stitching which secures the tie webbing to the bag horizontal end strap.

2 Cut a 26-inch length of 1 23/32-inch-wide, type XII nylon webbing and sear the ends.

3 Using a suitable marking aid, mark the webbing length at a point 6 inches from one end.

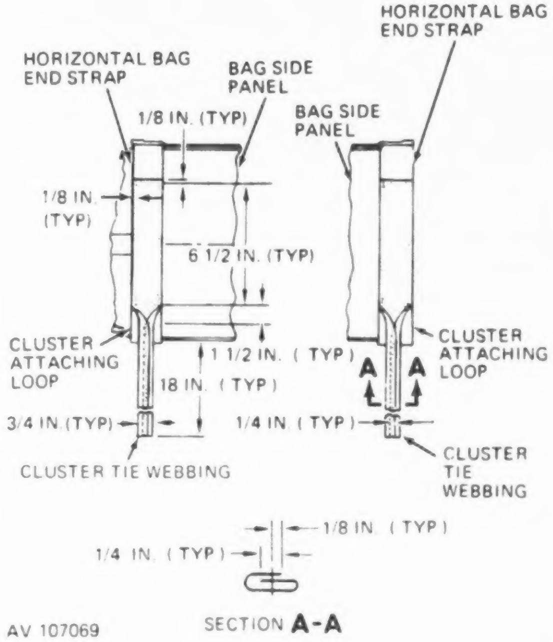

HORIZONTAL BAG END STRAP
HORIZONTAL BAG END STRAP
BAG SIDE PANEL
BAG SIDE PANEL
1/8 IN. (TYP)
1/8 IN. (TYP)
6 1/2 IN. (TYP)
CLUSTER ATTACHING LOOP
1 1/2 IN. (TYP)
18 IN. (TYP)
A
A
CLUSTER ATTACHING LOOP
3/4 IN.(TYP)
1/4 IN. (TYP)
CLUSTER TIE WEBBING
CLUSTER TIE WEBBING
1/8 IN. (TYP)
1/4 IN. (TYP)
AV 107069
SECTION A-A

Figure 3–79. Cluster tie webbing replacement details, G-12D 64-foot-diameter cargo parachute deployment bag.

4 Beginning on the opposite end of the webbing length and working to the 6-inch mark made in *3* above, fold the webbing edges in toward the center of the webbing width and overlap the edges by 1/4 inch. Secure the overlapped webbing edges by stitching an 18 1/4-inch-long row of stitching according to original construction details and figure 3-79. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Position the non-folded end of the webbing length in the original strap location on the horizontal bag end strap. Secure the webbing end by stitching a 6 1/2-inch-long double-X-box-stitch formation with two double ends according to original construction details and figure 3-79. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(12) *Riser extension tie loop and tie strap.*

(a) Restitching. Restitch broken or loose stitching on the riser extension tie strap according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged riser extension tie loop or tie strap by fabricating using the following procedures, as applicable:

1 Riser extension tie loop.

(a) Remove a damaged tie loop by cutting the loop material at a point adjacent to the stitch formation located on each end of the loop.

(b) Cut a length of 1-inch-wide, type XVII nylon webbing long enough to extend 1/2 inch beyond the stitch formation located at each end of the original loop. Sear the webbing ends.

(c) Center the webbing length in the original loop location with the ends extending over the original loop stitch formations by 1/2 inch. Secure each end of the webbing by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Insure that no slack remains in the finished loop length.

2 Riser extension tie strap.

(a) Cut and remove a suitable amount of stitching which secures each end of the tie strap between the corners of the riser extension cover and the bag horizontal end strap.

(b) Remove the tie strap by cutting the stitch formations which secure the strap to the bag horizontal end strap.

(c) Cut a 22-inch-length of 1-inch-wide, type XVII nylon webbing and sear the ends.

(d) Center the webbing length in the original tie strap location and secure the webbing at various points by stitching according to original construction details and figure 3-80. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

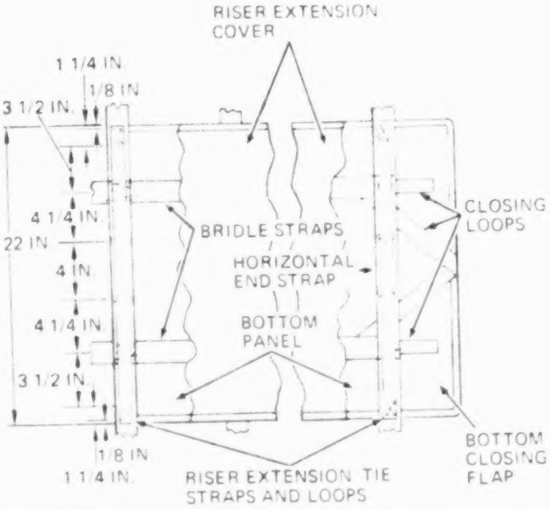


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Figure 3-80. Riser extension tie strap replacement details, G-12D 64-foot-diameter cargo parachute deployment bag.

(e) Restitch each applicable corner of the riser extension cover by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(13) *Riser extension cover end reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A riser cover end reinforcement may be spliced an unlimited number of times as follows:

1 Cut a length of 9/16-inch-wide, type I nylon webbing long enough to extend 1 inch beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(14) *Vent line hole reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vent line hole reinforcement may be spliced an unlimited number of times as follows:

NOTE

A vent line hole reinforcement is located on both the outside and the inside of the end panel at the bridle end of the bag.

1 Cut a length of 1 23/32-inch-wide, type XII nylon webbing long enough to extend 1 inch beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and, if required, fold the webbing to conform to original construction details. Secure the full length of the splice by stitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. Replace an unserviceable G-12D 64-foot-diameter cargo parachute deployment bag with a serviceable item from stock.

3-28.1 Installing Reinforcement Straps on G-12D Deployment Bag

When the G-12 deployment bag is used for Low Altitude Parachute Extraction System (LAPES), reinforcement straps must be installed. Only those deployment bags intended for use with LAPES should have the strap added. The straps are installed using the following procedures:

a. Cut two pieces of type VIII nylon webbing 76 inches long. Turn one end of the webbing under 1 inch. Place this end over the bottom left bridle strap extending onto the bag beyond the bag cross reinforcing webbing 6 inches. Sew it to the bag with a 6-inch four-point W-W stitch formation using the specifics in table 3-3. Run the webbing over the end of the bridle assembly to the top right side insuring that the same amount of tension is maintained on the bridle strap and the reinforcement strap. Turn excess material under 1 inch and sew over the bridle strap in the same manner. The second reinforcement strap is sewn to the lower right and upper left of the bag over the respective bridle straps using the same procedures as for the first reinforcing strap (see figure 3-80.1).

b. Insuring that the type VIII nylon webbing is centered over the bag bridle strap, hand tack both plies to the center of the loop on the end of the bridle strap using one turn of waxed ticket No. 5 cotton thread. Tie with a surgeon's knot and locking knot. Trim tie ends to 1/2 inch (see figure 3-80.2).

3–29. The 111-Inch-Long Deployment Line

a. Inspection. Inspect a 111-inch-long deployment line used with the G-12D 64-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 111-inch-long deployment line by cleaning the line webbing and the parachute connector link assembly in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Restitching.* Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(2) *Repairing a parachute connector link assembly.* Repair a connector link assembly on the 111-inch-long deployment line as prescribed in TM 10-1670-201-23/TO 13C-1-41. In

addition and as required, tighten the connector link screws using a suitable sized flat-tip (common-head) screwdriver.

(3) *Replacing a parachute connector link assembly.* Replace an unserviceable or missing parachute connector link assembly with a serviceable item from stock.

d. Replacement. Replace an unserviceable 111-inch-long deployment line with a serviceable item from stock.

3–30. The G-12C Pack

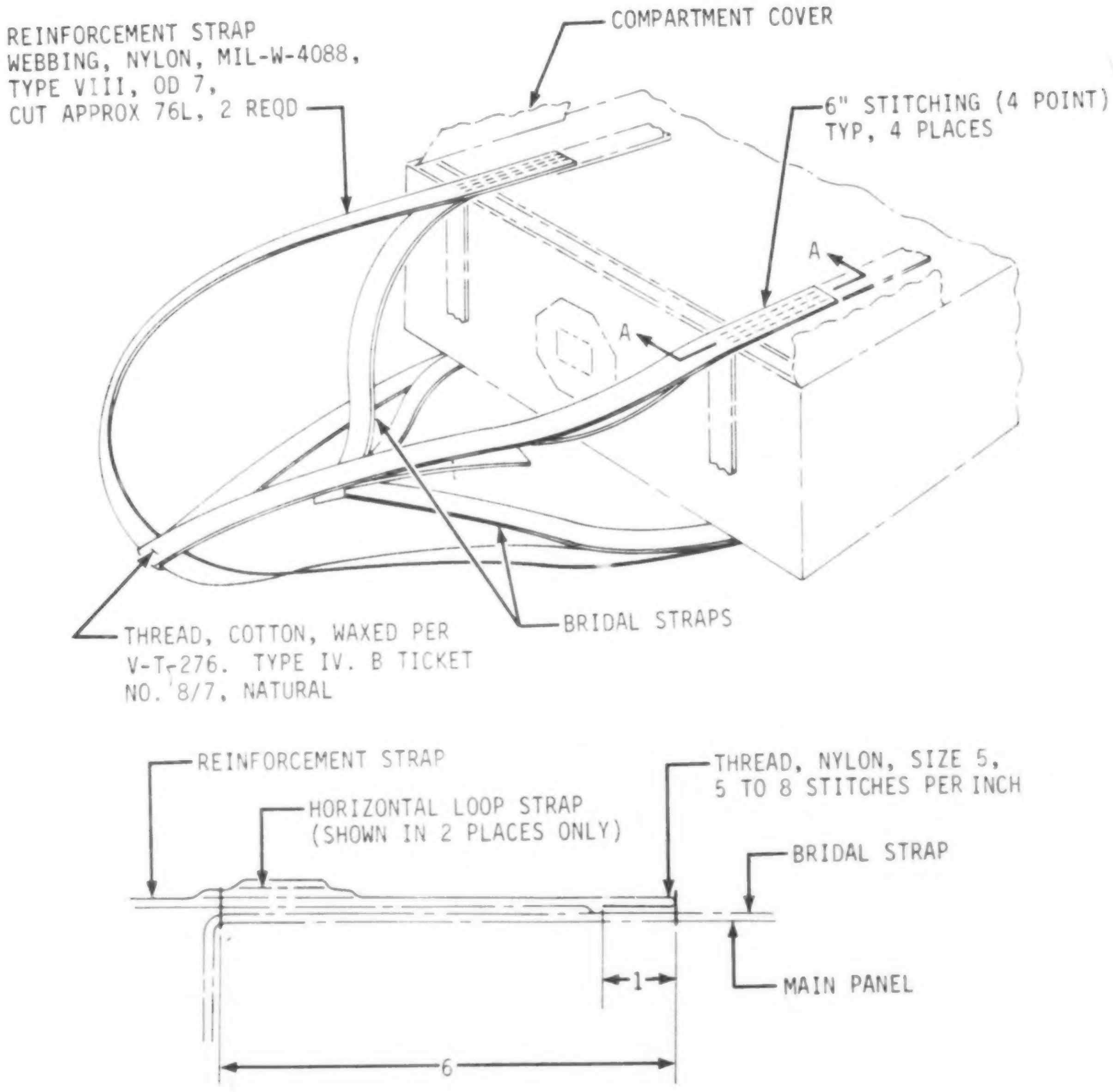
a. Inspection. Inspect an envelope-type pack used with the G-12C 64-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a G-12C 64-foot-diameter cargo parachute pack by cleaning the pack material in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Restitching.* Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(2) *Darning.* Darn a hole or tear in a panel or flap which does not exceed 3/4 inch in length or diameter using the procedures in TM


REINFORCEMENT STRAP
WEBBING, NYLON, MIL-W-4088,
TYPE VIII, OD 7,
CUT APPROX 76L, 2 REQD
COMPARTMENT COVER
6" STITCHING (4 POINT)
TYP, 4 PLACES
A
A
THREAD, COTTON, WAXED PER
V-T-276. TYPE IV. B TICKET
NO. 8/7, NATURAL
BRIDAL STRAPS
REINFORCEMENT STRAP
HORIZONTAL LOOP STRAP
(SHOWN IN 2 PLACES ONLY)
THREAD, NYLON, SIZE 5,
5 TO 8 STITCHES PER INCH
BRIDAL STRAP
MAIN PANEL
1
6

SECTION A-A
(TYP, 4 PLACES)

Figure 3-80.1. Installing reinforcement straps for G-12D deployment bag

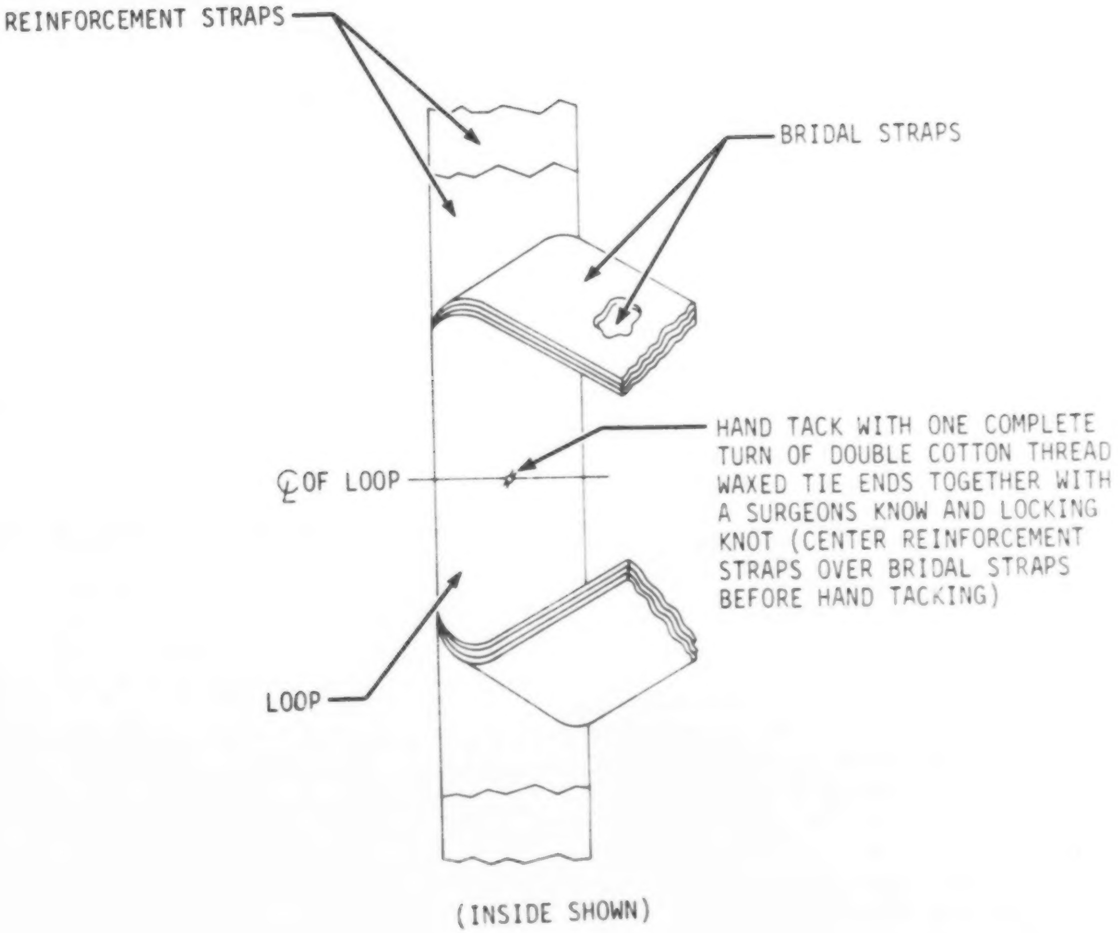

REINFORCEMENT STRAPS
BRIDAL STRAPS
HAND TACK WITH ONE COMPLETE TURN OF DOUBLE COTTON THREAD WAXED TIE ENDS TOGETHER WITH A SURGEONS KNOW AND LOCKING KNOT (CENTER REINFORCEMENT STRAPS OVER BRIDAL STRAPS BEFORE HAND TACKING)
℄ OF LOOP
LOOP
(INSIDE SHOWN)

Figure 3-80.2. Bridle strap

10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3. There is no limit to the number of times a panel or flap may be darned.

(3) *Patching.* Patch a hole or tear in a panel or flap as prescribed in TM 10-1670-201-23/TO 13C-1-41, using type 4 23.93-ounce No. 4 cotton duck cloth and the specifics in table 3-3. There is no limit to the number or size of patches applied to a panel or flap, provided 1 1/4 inches of undamaged material remains on all sides of the damaged area. Patches will be made on the outside of the G-12C pack.

d. Replacement. An unserviceable G-12C 64-foot-diameter cargo parachute pack may not be replaced with a serviceable like item, but instead will be replaced with a serviceable G-12D deployment bag from stock as prescribed by Appendix C.

3–31. The 68-Inch-Diameter Pilot Parachute

a. Inspection. Inspect a 68-inch-diameter pilot parachute used with the G-12C and G-12D 64-foot-diameter cargo parachutes in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 68-inch-diameter pilot parachute by cleaning and drying the canopy and associated parachute components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 68-inch-diameter pilot parachute canopy which requires the cutting of stitching or an original part, insure that adjacent canopy material in not damaged during the cutting process.

(1) *Parachute connector link assembly.*

(a) Repair. Repair a parachute connector link assembly as outlined in TM 10-1670-201-23/TO 13C-1-41. As required, tighten the connector link screws using a suitable sized flat-tip (common-head) screwdriver.

(b) Replacement. Replace an unserviceable parachute connector link assembly with a serviceable item from stock, using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Canopy panel.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3. A canopy panel may be darned a maximum of three times.

(c) Patching. Patch a hole or tear which exceeds 3/4 inch in length or diameter as prescribed in TM 10-1670-201-23/TO 13C-1-41, using the details in figure 3-81 and the specifics in table 3-3. Patch material will be either type I 1.1-ounce nylon cloth or type II 1.6-ounce nylon cloth, according to original panel material. The 68-inch-diameter pilot chute canopy is limited to three patches for the entire canopy and the size of each patch is limited to the size of the panel being patched.

(d) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(3) *Crown inside reinforcement tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

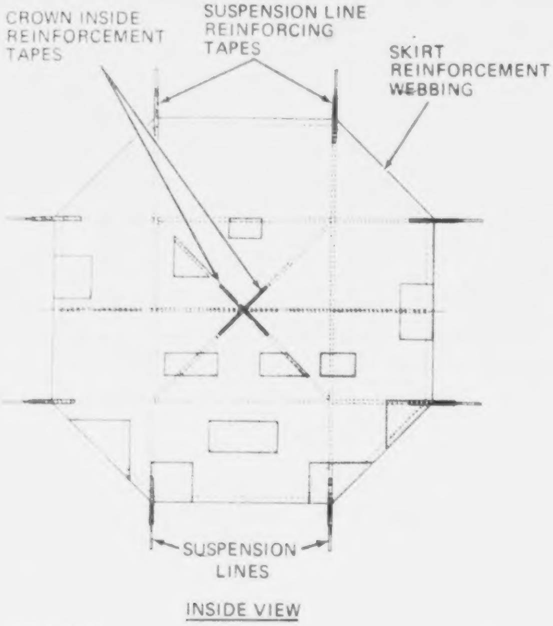

CROWN INSIDE REINFORCEMENT TAPES
SUSPENSION LINE REINFORCING TAPES
SKIRT REINFORCEMENT WEBBING
SUSPENSION LINES
INSIDE VIEW

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Figure 3-81. Typical canopy panel patches, 68-inch-diameter pilot parachute.

(b) Replacement. Replace a damaged crown inside reinforcement tape by fabricating as follows:

1 Beginning at the canopy crown attaching loops on the canopy outside, cut 6 inches of stitching down each of the crown outside reinforcing tapes.

2 Invert the canopy to locate the two crown inside reinforcement tapes to the outside.

3 Remove the damaged inside tape by cutting and removing the stitching which secures the tape to the canopy.

4 Cut a 12-inch-length of 9/16-inch-wide, type I nylon webbing and sear the ends.

5 Place the webbing length in the original reinforcement tape location and secure the webbing by stitching a 12-inch-long row of stitching, 1/8 inch in, along each edge (fig. 3-82). Insure the two crown outside reinforcing tapes are laid aside prior to stitching the webbing length. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

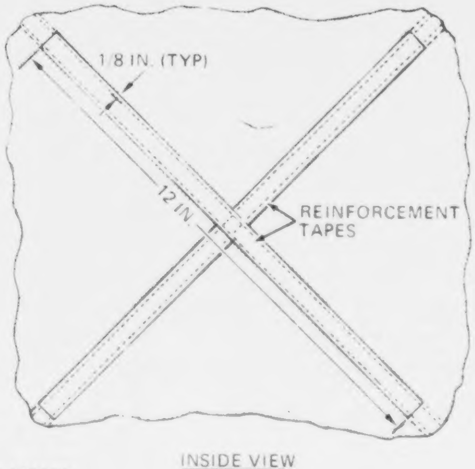

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Figure 3-82. Crown inside reinforcement tape replacement details, 68-inch-diameter pilot parachute.

6 Reinvert the canopy to locate the inside reinforcement tapes to the inside.

7 Reposition each of the crown outside reinforcing tapes in the original location and secure the tapes by stitching according to original construction details, using the specifics in table 3-3. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

(4) *Canopy reinforcing tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A canopy reinforcing tape may be spliced an unlimited number of times as follows:

1 Cut a length of 9/16-inch-wide, type I nylon webbing long enough to extend 2 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(5) *Crown attaching loop.* A damaged crown attaching loop will be replaced by fabricating as follows:

(a) Cut the damaged loop at the center and, if applicable, pass the cut ends of the loop under the other original loop from opposite directions.

(b) Overlap the cut loop ends and secure the overlapped ends to the center of the canopy crown by stitching a 3-inch-long row of stitching, 1/8 inch in, along each edge. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Cut a 12 7/8-inch length of 9/16-inch-wide, type I nylon webbing and sear the ends.

(d) Using a suitable marking aid, mark the webbing length at a point 5 inches from each end.

(e) Center the webbing length over the original loop location on the canopy outside and aline the ends with the ends of the crown inside reinforcement tape. Secure each end of the webbing length by stitching a 5-inch-long row of stitching, 1/8 inch in, along each edge (fig. 3-83). Insure a 2-inch-long, 7/8-inch-radius loop is formed at the center of the webbing length, between the two 5-inch-marks. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

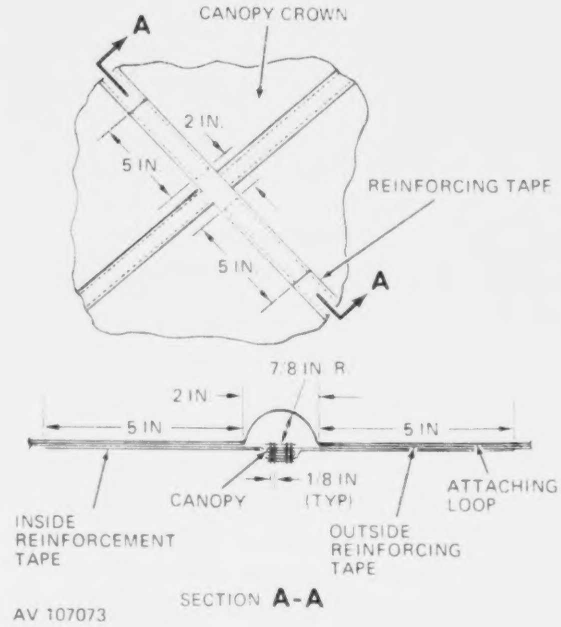

Figure 3–83. Canopy crown attaching loop replacement details, 68-inch-diameter pilot parachute.

(6) *Skirt reinforcement webbing (lower lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. The skirt reinforcement webbing (lower lateral band) is limited to three splices. In addition, a splice will not extend across any suspension line(s) and a splice will not be performed if less than 4 inches of undamaged material remains on each side of the damaged area. Splice a damaged skirt reinforcement webbing (lower lateral band) as follows:

1 Cut a length of 1-inch-wide, type IV nylon webbing long enough to extend 3 1/2 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area on the canopy outside and

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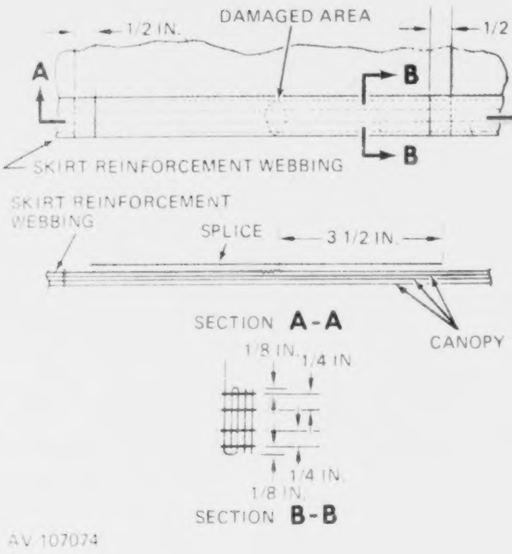
1/2 IN.
DAMAGED AREA
1/2 IN.
A
B
A
B
SKIRT REINFORCEMENT WEBBING
SKIRT REINFORCEMENT WEBBING
SPLICE
3 1/2 IN.
SECTION A-A
CANOPY
1/8 IN.
1/4 IN.
1/4 IN.
1/8 IN.
SECTION B-B
AV 107074

Figure 3-84. Skirt reinforcement webbing splice details, 68-inch-diameter pilot parachute.

secure the splice by stitching four continuous rows along the full length of the splice material (fig. 3-84). Each row of stitching will be started at a point 1/2 inch from one end of the splice material and finished 1/2 inch beyond the opposite end of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(7) *Suspension line reinforcing tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. There are two reinforcing tape lengths at each point of suspension line attachment on the canopy skirt. One tape length is located on the outside of the canopy skirt and the second tape length is located on the inside of the skirt. Both tape lengths will be replaced whenever damage is incurred on either one or both tapes. Replace the reinforcing tapes by fabricating as follows:

1 Remove the original suspension line reinforcing tapes by cutting the stitching which secures the tapes to the inside and the outside of the skirt.

2 Cut two 10-inch lengths of 9/16-inch-wide, type I nylon webbing and sear the ends.

3 Position the webbing lengths in the location of the original reinforcing tapes. Secure the replacement reinforcing tapes by stitching a 1/4-inch-wide by 8 3/4-inch-long row of double-throw zigzag stitching according to the details in figure 3-85. Further make a single row of stitching, 1/8 inch in, along each side edge to a point 1/2 inch above the upper edges of the reinforcing tapes. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(8) *Suspension line.*

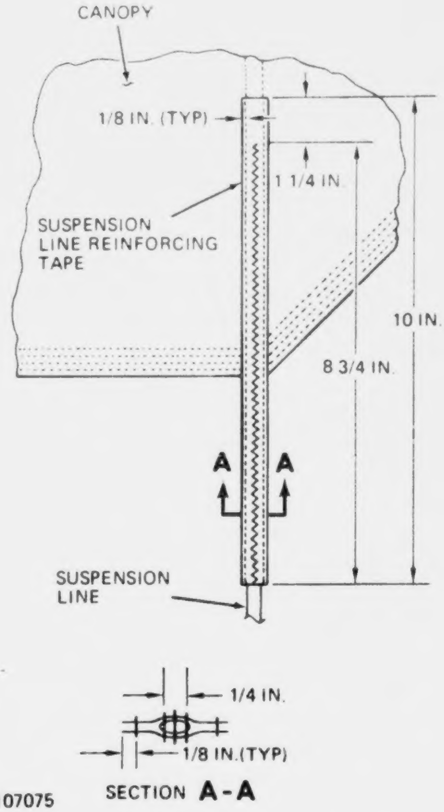
CANOPY
1/8 IN. (TYP)
1 1/4 IN.
SUSPENSION LINE REINFORCING TAPE
10 IN.
8 3/4 IN.
A
A
SUSPENSION LINE
1/4 IN.
1/8 IN.(TYP)
SECTION A-A
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Figure 3–85. Suspension line reinforcing tape replacement details, 68-inch-diameter pilot parachute.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A suspension line on the 68-inch-diameter pilot parachute, which may be constructed of either type II coreless nylon cord or type III nylon cord, will be limited to one splice. In addition, a type III nylon cord line must not exceed the damage limitations specified in TM 10-1670-201-23/TO 13C-1-41. Splicing of either type suspension line will be performed using the procedures outlined in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3.

(c) Replacement. Replace an unserviceable suspension line by fabricating using the following applicable procedures:

1 A type III nylon cord suspension line.

(a) Place the canopy in proper layout on a repair table and trace the damaged suspension line from the canopy skirt to the connector link assembly.

(b) Remove the affected suspension line from the canopy skirt by cutting and removing the stitching which secures the line between the canopy reinforcing tape and the suspension line reinforcing tape. Further cut and remove the stitching which secures the upper end of the suspension line to the canopy reinforcing tape on the outside of the canopy skirt and pull the line end down through the hole in the canopy reinforcing tape.

(c) Cut an 80-inch length of type III nylon cord and sear the ends.

(d) Pass one end of the cord length up between the lower ends of the canopy reinforcing tape and the suspension line reinforcing tape, up through the hole in the lower end of the canopy reinforcing tape and to the outside, and position the cord end in the original suspension line upper end location.

(e) Temporarily secure the suspension line between the lower ends of the canopy reinforcing tape and the suspension line reinforcing tape by handtacking. Temporary tacking will be performed as outlined in TM 10-1670-201-23/TO 13C-1-41.

(f) Secure the upper end of the suspension line to the canopy skirt by stitching according to original construction details and the procedures in (7)(*b*). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Remove temporary tacking made in (e) above.

(g) Trace the cord length running end with an adjacent suspension line under equal tension from the canopy skirt to the connector link assembly at the suspension line lower end. Using a suitable marking aid, mark the cord running end at a point alined with the inside edge of the connector link bar to which the suspension line group is attached.

(h) Cut and remove the damaged suspension line from the connector link assembly.

(i) Aline the mark made on the cord length running end with the inside edge of the connector link bar at the location of the original suspension line. Secure the cord running end to the bar by passing the end around the bar twice and making two half hitches (fig. 3-86). Draw the half hitch knots tight against the top of the connector link bar.

NOTE

> The knot formation in figure 3-86 is shown loose for clarity only. Insure the knot is drawn tight before stitching.

(j) Position the tie running end against the suspension line length and beginning at a point 2 inches above the formed knots, secure the tie running end to the suspension line by stitching a 3/16-inch-wide by 2-inch-long row of double-throw zigzag stitching toward

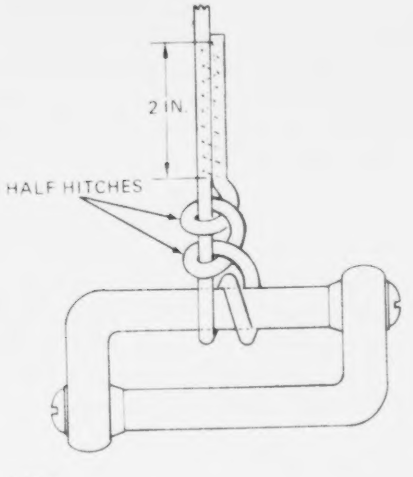

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Figure 3-86. Method of attaching a type III nylon cord suspension line to a connector link, 68-inch-diameter pilot parachute.

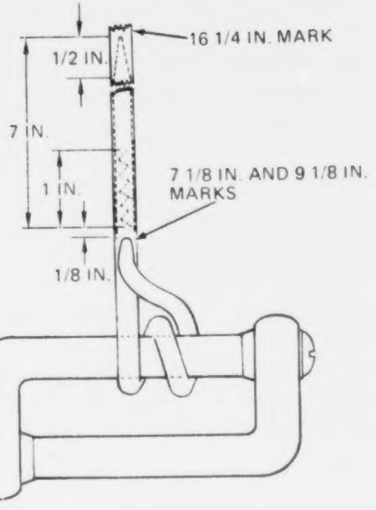

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Figure 3-87. Method of attaching a type II coreless nylon cord suspension line to a connector link, 68-inch-diameter pilot parachute.

the secured knots. Finish the stitch row as close as possible to the knots. Stitching will be made using the specifics in table 3-3. Trim the remaining cord loose end to a point immediately adjacent to the stitch row and lightly sear the exposed cord end.

2 A type II coreless nylon cord suspension line.

(a) Using the procedures in paragraphs *1*(a) through (h) above, type II coreless nylon cord, and the specifics in table 3-3, attach a replacement suspension line to the canopy skirt and prepare to attach the opposite line end to the original connector link assembly.

(b) At a point 9 1/8 inches below the mark previously made on the cord running end, cut and remove any excess cord length. Taper-cut the cord end by 1/2 inch.

(c) Using a suitable marking aid, mark the cord length at points 7 1/8, 9 1/8, and 16 1/4 inches from the cord tapered end.

(d) Aline the first mark made on the cord length with the inside edge of the connector link bar at the location of the original suspension line and pass the tapered running end around the connector link bar twice (fig. 3-87).

NOTE

The line attachment to the connector link in figure 3-87 is shown loose for clarity only. The loop splice will be tight against the connector link bar before stitching.

(e) Insert a suitable splicing aid into the cord casing at the 16 1/4-inch mark and work the splicing aid through the cord casing to the outside at the 9 1/8-inch mark.

(f) Attach the cord tapered end to the splicing aid and pull the splicing aid back through the cord casing until the 7 1/8- and 9 1/8-inch marks are alined.

(g) Hold the alined marks together and continue pulling the splicing aid back through the cord casing, to the outside at the 16 1/4-inch mark, allowing only the cord tapered end to protrude from the cord casing.

(h) Remove the cord tapered end from the splicing aid. While holding the alined marks together, stretch the cord length to permit the tapered end to recede into the cord casing.

(i) Secure the formed attaching loop by stitching a 1/8-inch-wide by 1-inch-long row of double-throw zigzag stitching according to the details in figure 3-87, using the specifics in table 3-3.

d. Replacement. Replace an unserviceable 68-inch-diameter pilot parachute with a serviceable item from stock.

3–32. The Static Line

a. Inspection. Inspect a 15-foot-long static line used with the 68-inch-diameter pilot parachute in accordance with paragraph 3-4, using the procedures in table 3-3.

b. Service. Service a 15-foot-long static line by cleaning the static line webbing and associated components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 15-foot-long static line which requires the cutting of stitching or an original part, insure that adjacent static line material is not damaged during the cutting process.

(1) *Edge binding.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. An edge binding on the static line bridle bag may be spliced an unlimited number of times according to tape edge binding splicing procedures in TM 10-1670-201-23/TO 13C-1-41, using 3/4-inch-wide, type III cotton tape and the specifics in table 3-3.

(2) *Bag panel.*

(a) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3. A bag panel may be darned a maximum of three times.

(b) Restencil. As required, restencil identification marks using procedures in TM 10-1670-201-23/TO 13C-1-41.

(3) *Riser clevis.*

(a) Repair. Repair a static line riser clevis as prescribed in paragraph 3-7*c*(1).

(b) Replacement. Replace an unserviceable riser clevis with a serviceable item from stock.

(4) *Bridle line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable bridle line by fabricating as follows:

1 Remove the bridle line from the inner loop within the static line pilot parachute bag by untieing the knot securing the line to the loop.

2 Cut a 22-inch length of type IV coreless nylon cord and taper-cut 1/2 inch of each end.

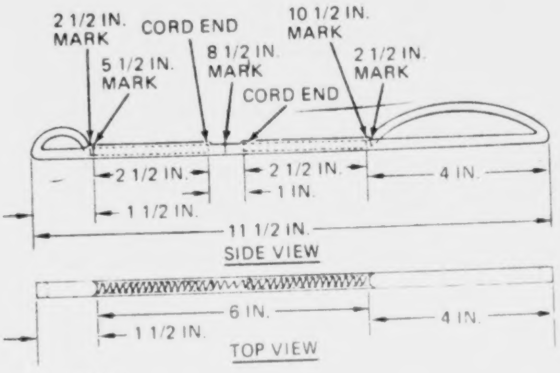

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Figure 3–88. Bridle line construction details, 15-foot-long static line.

3 Using a suitable marking aid, mark the cord length at points 2 1/2, 5 1/2, and 8 1/2 inches from one end, and 2 1/2 and 10 1/2 inches from the opposite end.

4 Insert a suitable splicing aid into the cord casing at the 8 1/2-inch mark and work the splicing aid through the cord casing to the outside at the 5 1/2-inch mark.

5 Attach the nearest tapered cord end to the splicing aid and pull the aid back through the cord casing until the 2 1/2- and 5 1/2-inch marks are alined and a 1 1/2-inch long loop is formed (fig. 3-88).

6 Hold the alined marks together and continue pulling the splicing aid back through the cord casing to the outside at the 8 1/2-inch mark, allowing only the cord tapered end to protrude from the cord casing.

7 Remove the cord tapered end from the splicing aid. While holding the alined marks, stretch the cord length to permit the tapered end to recede into the cord casing.

8 Reinsert the splicing aid into the cord casing at the 8 1/2-inch mark and work the splicing aid through the cord casing to the outside at the 10 1/2-inch mark.

9 Using the procedures in *5* through *7* above and the 2 1/2- and 10 1/2-inch marks, form a 4-inch-long loop on the loose cord end.

10 Secure the bridle line formed loops by stitching a 3/16-inch-wide by 6-inch-long row of double-throw zigzag stitching along the center of the bridle line length from one set of alined marks to the opposite set of alined marks. Stitching will be made using the specifics in table 3-3.

11 Attach the replacement bridle line to the static line pilot parachute bag inner loop according to original attachment details and figure 3-89.

(5) *Bridle webbing.* The bridle webbing is that length of webbing which extends from the static line pilot parachute bag to the riser clevis. The only repair function performed on the bridle webbing is to restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(6) *Tiedown loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

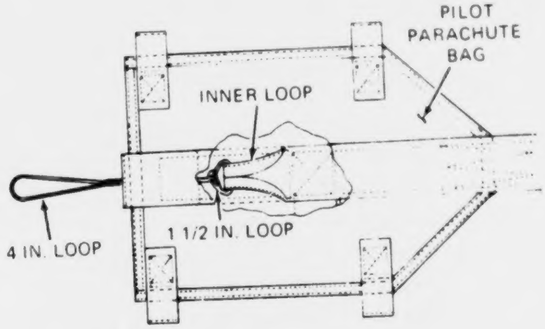

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Figure 3–89. Bridle line attachment details, 15-foot-long static line.

(b) Replacement. Replace a damaged or missing tiedown loop on the static line pilot parachute bag by fabricating as follows:

1 If applicable, remove the damaged loop by cutting the stitching which secures the loop to the pilot parachute bag.

2 Cut a 5-inch length of 1-inch-wide, type II cotton webbing and wax the ends.

3 Double the webbing length, aline the ends, and position the folded webbing on the bag in the original tiedown loop location.

4 Form the 1 1/4-inch-long loop and secure the webbing to the bag by stitching a 1-inch-long single-X-box-stitch formation with, one double end, according to the details in figure 3-90. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

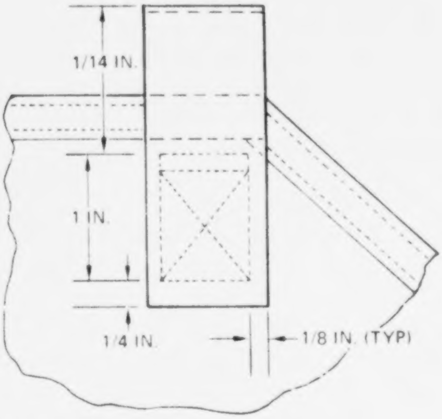

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Figure 3–90. Pilot parachute bag tiedown loop replacement details, 15-foot-long static line.

d. Replacement. Replace an unserviceable 15-foot-long static line with a serviceable item from stock.

Section X. THE G-11A 100-FOOT-DIAMETER CARGO PARACHUTE

3–33. The Parachute Canopy

a. Inspection. Inspect a G-11A 100-foot-diameter cargo parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a G-11A 100-foot-diameter cargo parachute canopy by cleaning and drying the canopy and associated canopy components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a G-11A 100-foot-diameter cargo parachute canopy which requires the cutting of stitching or an original part, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Reefing line cutter bracket.*

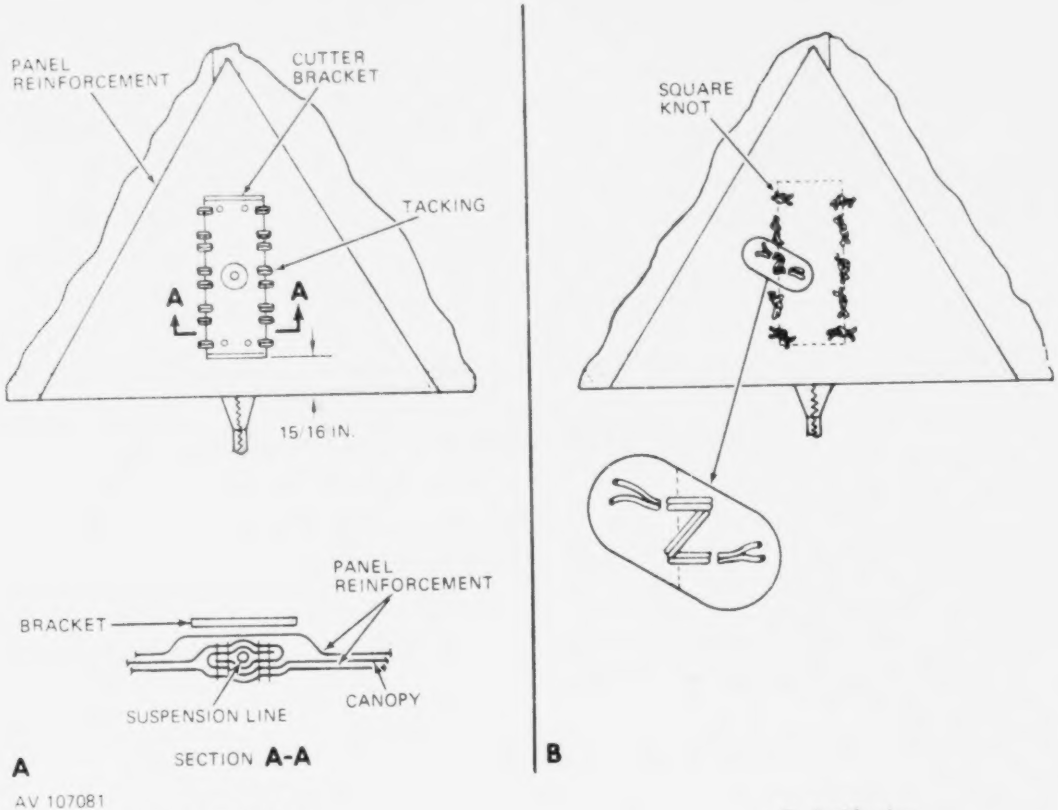
(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details, using two turns double, ticket No. 5 waxed cotton thread at each tacking point. Secure tacking ends at each tacking point with a square knot. Trim tie ends to 1/2 inch.

(b) Replacement. Replace a damaged or missing reefing line cutter bracket with a serviceable item from stock.

(c) Installation. Install a reefing line cutter bracket on the canopy skirt at radial seams 1 and 61 as follows:

1 If applicable, remove the original bracket by cutting the tacking securing each side of the bracket to the canopy panel reinforcement.

2 Position a serviceable bracket in the original bracket location on the canopy outside and insure the flange containing



A. Outside view. *B. Inside view.*

Figure 3-91. Reefing line cutter bracket tacking details, G-11A 100-foot-diameter cargo parachute.

the 7/8-inch-diameter hole is located at the upper end of the bracket position.

3 Holding the bracket in position, begin handtacking the bracket at one top corner hole with two turns double, ticket No. 5 waxed cotton thread (A, fig. 3-91). The tack will be made by passing the tacking needle from the inside of the canopy up through the canopy material and the bracket corner hole, out over the bracket side edge, and back down through the canopy material to the canopy inside. Repeat the tacking routing to complete the second turn and secure the tacking ends on the canopy inside with a square knot (B).

4 Handtack the opposite top corner hole and each of the two bottom corner holes using the procedures in *3* above.

5 Beginning at the first hole next to a corner tacking point, handtack the applicable bracket side edge by passing the tacking needle with a length of doubled ticket No. 5 waxed cotton thread from the inside of the canopy up through the canopy material and the bracket hole, out over the bracket side edge, and back down through the canopy material to the canopy inside.

6 Direct the tacking needle to the next free hole in the bracket side edge and pass the needle up through the canopy material and the bracket hole, out over the bracket side edge, and back down through the canopy material to the canopy inside.

7 Move the needle back to the first side edge hole and repeat the procedure in 5 above. Further repeat the procedure in 6 above, finishing on the canopy inside to complete two turns of tacking through each hole. Secure the tie ends with a square knot.

8 For making the remaining five double-hole tackings along the bracket side edges, repeat the procedures in 5 through 7 above. Trim all tie ends to 1/2 inch.

(2) *Gore panel.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter as outlined in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Each gore panel may be darned a maximum of three times.

(c) Patching. Patch a hole or tear which exceeds 3/4 inch in length or diameter according to gore section patching procedures and limitations outlined in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3, if applicable.

NOTE

A gore section of the G-11A 100-foot-diameter cargo parachute canopy may be patched by two methods. One method is by use of adhesive nylon parachute mending cloth that does not require stitching. The second method of patching requires stitching and the patch material will be of type II 1.6-ounce nylon parachute cloth.

(d) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(e) Replacement. Replace a gore panel which is damaged beyond repair by fabricating according to the procedures outlined in TM 10-1670-201-23/TO 13C-1-41, using type II 1.6-ounce nylon parachute cloth and the specifics in table 3-3.

(3) *Vent and skirt bands (upper and lower lateral bands).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a damaged vent or skirt band (upper or lower lateral band) according to lateral band splicing procedures in TM 10-1670-201-23/TO 13C-1-41, using 1-inch-wide tubular nylon webbing and the specifics in table 3-3.

(4) *Canopy line.*

(a) General. A canopy line is a length of nylon cord which extends from a point of attachment on a connector link assembly on one side of the canopy, up through a canopy radial seam channel, across the canopy vent, and down through a canopy radial seam to a connector link assembly on the opposite side of the canopy. As a result of the routing, a canopy line length is divided into segments which are referred to as suspension line, radial line, and vent line.

(b) Restitch. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

CAUTION

The radial line portion of a canopy line will not be spliced. Whenever a canopy line is to be spliced, the splice will be located either above the vent band (upper lateral band) or below the skirt band (lower lateral band).

(c) Splicing. Splice a damaged suspension line or vent line segment of a canopy line according to the procedures and limitations in TM 10-1670-201-23/TO 13C-1-41, using type III nylon cord and the specifics in table 3-3.

(d) Replacing a suspension line. When a suspension line portion of a canopy line is damaged beyond the limitations for splicing or the core threads are damaged to any extent, the suspension line will be replaced. Replace a damaged suspension line from the canopy skirt band (lower lateral band) to the attaching connector link assembly by fabricating as follows:

1 Place the canopy assembly in proper layout on a suitable work surface and trace the affected suspension line from the point of attachment at the canopy skirt band (lower lateral band) to the respective connector link assembly.

2 Remove the lower radial line reinforcement tape at the canopy skirt by cutting the stitching securing the tape length to the canopy. Further cut the stitching securing the V-tab and original suspension line together.

3 Remove the original suspension line by cutting the line length at the applicable connector link assembly and at the lower edge of the skirt band (lower lateral band), just above the V-tab. Secure the loose end of the radial line using temporary tacking or pushpins.

4 Cut a length of type III nylon cord 36 inches longer than the length of the original suspension line.

5 Position one end of the cord length on the applicable connector link assembly in the original suspension line location. Secure the cord end to the connector link with two half-hitches, leaving a 6-inch-long tie free end.

6 Trace the replacement line length and an adjacent suspension line from the connector link assembly to the canopy skirt and allow both lines to settle under equal tension.

7 Using a suitable marking aid, mark the replacement line at the point of intersection with the lower edge of the skirt band (lower lateral band). After marking, apply slight tension to the replacement line and an adjacent suspension line to check the accuracy of the mark.

8 At a point 6 inches above the mark, cut the replacement line length and wax the cut end.

9 Pass the waxed line end up through the original attaching V-tab and temporarily secure the line end to the V-tab with a bow knot.

10 Remove one end of the applicable pocket band by cutting the stitching securing the pocket band end to the skirt band (lower lateral band). Position the loose pocket band end above the secured end and temporarily secure the loose end to the skirt band (lower lateral band) using a pushpin.

11 Remove one end of the applicable reefing ring retainer by cutting the stitching securing the retainer end to the skirt band (lower lateral band). Position the loose retainer end above the secured end and temporarily secure the loose end to the skirt band (lower lateral band) using a pushpin. Insure the reefing ring is not removed from the retainer during the retainer cutting and relocating process.

12 Cut a 7-inch length of 9/16-inch-wide, type I nylon webbing and wax each end by 1/4 inch.

13 Place the 7-inch webbing length lengthwise on the original radial seam on the canopy inside and aline the lower end of the webbing length with the lower edge of the V-tab.

14 Untie the replacement suspension line at the V-tab and place the upper end of the line length adjacent to the original radial line on the outside of the radial seam. Aline the mark made in 7 above with the lower edge of the skirt band (lower lateral band) and secure the line end and 7-inch webbing length to the canopy skirt with temporary tacking or pushpins.

15 Working on the outside of the canopy skirt, secure the upper end of the replacement suspension line to the V-tab and original radial seam by making a 3/16-inch-wide row of double-throw zigzag stitching from a point 1/4 inch below the V-tab to a point 1/4 inch beyond the end of the replacement line. Stitching will be made using the specifics in table 3-3.

16 Beginning at the lower edge of the skirt band (lower lateral band) outside, secure the 7-inch-webbing length and original radial line loose end to the radial seam by making a 6-inch-long row of 3/16-inch-wide double-throw zigzag stitching. Stitching will be made using the specifics in table 3-3. Remove temporary tacking or pushpins installed in *3* and *14* above.

17 Reinstall the lower radial line reinforcement tape removed in *2* above by restitching according to original construction details and the procedures in paragraph (10) below. Stitching will be made using the specifics in table 3-3.

18 Reinstall the loose ends of the reefing ring retainer, with reefing ring, and pocket band removed in *10* and *11* above by restitching according to original attachment details. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3.

19 Working at the point of attachment to the connector link assembly and beginning at a point 2 inches above the half-hitches made in *5* above, secure the tie free end to the replacement line body by stitching a 2-inch-long row of 3/16-inch-wide double-throw zigzag stitching toward the connector link assembly. Finish the stitch formation as close as possible to the securing knots and trim the remaining tie free end to 1/4 inch. Stitching will be made using the specifics in table 3-3.

(e) Replacing a radial line. When a radial line portion of a canopy line is damaged, the affected radial line will be replaced by fabricating as follows:

1 Place the canopy in proper layout on a suitable work surface.

2 Remove the upper, intermediate, and lower radial line reinforcement tapes from the applicable radial line radial seam by cutting the stitching securing the tape lengths to the canopy. Further cut the stitching securing the V-tab and suspension line together.

3 Using a suitable aid, mark the damaged radial line at the lower edge of the skirt band (lower lateral band).

4 Using the procedures in paragraphs *(d)10* and *11* above, remove and temporarily secure one end of the applicable pocket band and reefing ring retainer.

5 Working below the canopy skirt, pull 10 inches of the original radial line from the radial seam and cut the line length at a point 6 inches above the mark made in *3* above.

6 Slide back the sheath cover of the cut radial line end to expose the line core threads and cut 1 inch of the exposed core threads. Return the sheath cover back to the original position.

7 Cut a 49-foot length of type III nylon cord and wax one end.

8 Insert the cord length waxed end into the sheath cover of the original radial line and secure the two line ends together with whipstitching.

9 Working at the canopy vent and using a suitable aid, mark the original radial line at the upper edge of the vent band (upper lateral band).

10 Pull 10 inches of the damaged radial line from the upper end of the radial seam and cut the line length at a point 6 inches below the mark made in *9* above.

11 Pull the original radial line up through the radial seam until the attached replacement line length extends 2 inches beyond the upper edge of the vent band (upper lateral band).

12 Cut the replacement radial line length even with the upper edge of the vent band (upper lateral band). Temporarily secure the line end to the vent band (upper lateral band) with tacking or pushpins.

13 Cut a 6-inch length of 9/16-inch-wide, type I nylon webbing and wax each end by 1/4 inch.

14 Place the webbing length lengthwise over the original radial seam upper end on the canopy inside and aline the webbing upper end with the upper edge of the vent band (upper lateral band). Secure the webbing length in position using temporary tacking or pushpins.

15 Place the loose end of the original vent line on the radial seam outside adjacent to the replacement radial line. Aline the mark made in *9* above with the upper edge of the vent band (upper lateral band). Secure the vent line loose end and the upper end of the replacement radial line to the radial seam using temporary tacking or pushpins.

16 Working on the outside of the canopy top, secure the 6-inch webbing length and the vent line loose end to the radial seam by making a row of 3/16-inch-wide double-throw zigzag stitching from 1/4 inch above the vent band (upper lateral band) to the end of the vent line. Stitching will be made using the specifics in table 3-3.

17 Beginning at a point 6 inches below the vent band (upper lateral band) upper edge, secure the 6-inch webbing length and the upper end of the replacement radial line by stitching a 6-inch-long row of 3/16-inch-wide double-throw zigzag stitching to the upper edge of the vent band (upper lateral band). Stitching will be made using the specifics in table 3-3. Remove temporary tacking or pushpins installed in *14* and *15* above.

18 Working at the canopy skirt band (lower lateral band), pick up the loose end of the replacement radial line and an adjacent radial line and allow both lines to settle under equal tension.

19 Using a suitable aid, mark the replacement line length at the lower edge of the skirt band (lower lateral band).

20 Cut the replacement radial line length at the mark made in *19* above and temporarily secure the line loose end to the skirt band (lower lateral band) with tacking or pushpins.

21 Wax the cut upper end of the original suspension line. Pass the waxed line end up through the V-tab and position the line end on the canopy outside adjacent to the replacement radial line. The mark made in *3* above should be alined with the lower edge of the skirt band (lower lateral band). Secure the suspension line end to the radial seam using temporary tacking or pushpins.

22 Cut a 6 1/2-inch length and a 7-inch length of 9/16-inch-wide, type I nylon webbing and wax each webbing end by 1/4 inch.

23 Place the 6 1/2-inch webbing length lengthwise on the inside of the affected canopy radial seam with the lower edge of the webbing length located 8 inches above the lower edge of the skirt band (lower lateral band). Secure the webbing length to the radial seam center from the canopy outside with a 6 1/2-inch-long row of 3/16-inch-wide double-throw zigzag stitching. Stitching will be made using the specifics in table 3-3.

24 Place the 7-inch webbing length lengthwise on the original radial seam on the canopy inside and aline the lower end of the webbing length with the lower edge of the V-tab. Secure the webbing length to the radial seam with temporary tacking or pushpins.

25 Secure the 7-inch webbing length to the replacement radial line by stitching a 3/16-inch-wide row of double-throw zigzag stitching from the lower edge of the skirt band (lower lateral band) to the upper end of the webbing length. Stitching will be made using the specifics in table 3-3.

26 Secure the upper end of the suspension line to the V-tab and radial seam by making a 3/16-inch-wide row of double-throw zigzag stitching from a point 1/4 inch below the V-tab to a point 1/4 inch beyond the end of the suspension line. Stitching will be made using the specifics in table 3-3. Remove the temporary tacking or pushpins installed in *21* and *24* above.

27 Reinstall the upper, intermediate, and lower radial line reinforcement tapes removed in *2* above by restitching according to original construction details and the procedures in paragraph (10) below. Stitching will be made using the specifics in table 3-3.

28 Reinstall the loose ends of the reefing ring retainer, with reefing ring, and pocket band removed in *4* above by restitching according to original attachment details. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3.

(f) Replacing a vent line. When a vent line portion of a canopy line requires more than one splice or has a core thread severed, the vent line will be replaced by fabricating as follows:

1 Lay the canopy vent out on a suitable work surface.

2 Remove the affected vent line from the canopy vent by cutting the line even with the upper edge of the vent band (upper lateral band) at two points. Secure the loose upper end of each radial line with temporary tacking or pushpins.

3 Remove the upper radial line reinforcement tape from each of the two applicable radial lines by cutting the stitching securing the tapes to the canopy.

4 Cut a length of type III nylon cord 12 inches longer than the length of the removed original vent line and wax the cord ends.

5 Using a suitable aid, mark the cord length at a point 6 inches from each end.

6 Place one end of the cord length on the outside of one applicable radial seam, adjacent to an original radial line. Aline the respective 6-inch mark made in *5* above with the upper edge of the vent band (upper lateral band). Secure the cord end to the radial seam with temporary tacking or pushpins.

7 Pass the loose end of the replacement vent line through the canopy bridle loop and position the end on the applicable radial seam on the opposite side of the canopy using the procedures in *6* above.

8 Cut two 6-inch lengths of 9/16-inch-wide, type I nylon webbing and wax each webbing end by 1/4 inch.

9 Place a 6-inch webbing length lengthwise on the inside of each affected radial seam with the upper end of each webbing length alined with the upper edge of the vent band (upper lateral band). Insure each webbing length is centered on the respective radial line and positioned vent line end. Secure each webbing length with temporary tacking or pushpins.

10 Working on the canopy outside, secure each positioned end of the replacement vent line to the applicable radial seam and 6-inch webbing length by stitching a 3/16-inch-wide row of double-throw zigzag stitching from a point 1/4 inch above the vent band (upper lateral band) to the lower edge of the applicable vent line end. Stitching will be made using the specifics in table 3-3.

11 Beginning 6 inches below the upper edge of the vent band (upper lateral band), secure each radial line upper end to the radial seam and 6-inch webbing length by stitching a 6-inch-long row of 3/16-inch-wide double-throw zigzag stitching to the vent band (upper lateral band) upper edge. Stitching will be made using the specifics in table 3-3. Remove temporary tacking or pushpins installed in *2*, *6*, *7*, and *9* above.

12 Reinstall the upper radial line reinforcement tape removed in *3* above by restitching according to original construction details and paragraph (10) below. Stitching will be made using the specifics in table 3-3.

(g) Replacement. Replace an unserviceable canopy line by fabricating according to the procedures outlined in TM 10-1670-201-23/TO 13C-1-41, using type III nylon cord and the specifics in table 3-3.

(5) *Parachute connector link assembly.*

(a) Repair. Repair a parachute connector link assembly as prescribed in TM 10-1670-201-23/TO 13C-1-41. In addition and as required, tighten the connector link screws using a suitable sized flat-tip (common-head) screwdriver.

(b) Replacement. Replace an unserviceable or missing parachute connector link assembly with a serviceable item from stock.

(6) *Attaching loop (bridle loop).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged attaching loop (bridle loop) by fabricating as follows:

1 Cut a 30-inch-length of 1 3/4-inch-wide, type X cotton webbing and wax the ends.

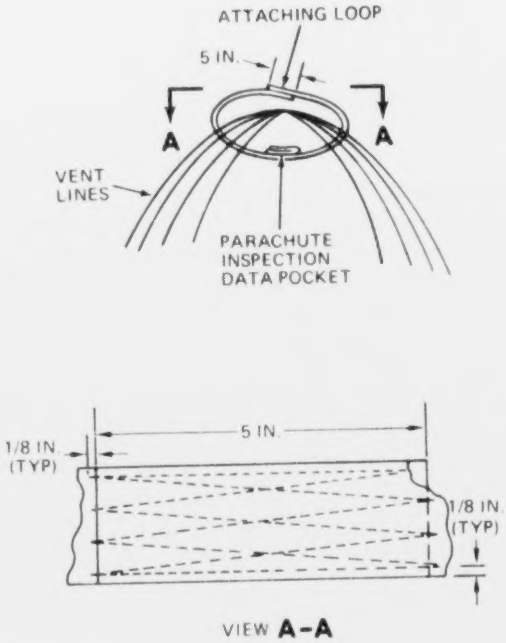


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Figure 3–92. Canopy attaching loop replacement details, G-11A 100-foot-diameter cargo parachute.

2 Pass one end of the webbing length through the canopy vent lines and join the webbing ends together above the vent lines with a 5-inch-long overlap (fig. 3-92). Insure the webbing encircles all the canopy vent lines.

3 Secure the overlapped webbing ends together by stitching a 5-inch-long four-point-WW-stitch formation, 1/8 inch in from each side edge. Overstitch each webbing end by 1/8 inch. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 Remove the original canopy attaching loop (bridle loop) from around the canopy vent lines by cutting the loop webbing.

5 If the original parachute inspection data pocket (log record pocket) is serviceable, remove the pocket from the damaged attaching loop (bridle loop) by cutting the tacking which secures the pocket to the loop webbing. Install the pocket on the replacement attaching loop (bridle loop) according to original installation details, TM 10-1670-201-23/TO 1ↄC-1-41, and the applicable tacking specifics in (7) below.

(7) *Parachute inspection data pocket (log record pocket).*

(a) Repair. Repair a paprachute inspection data pocket as prescribed in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Retacking will be performed using two turns double, ticket No. 5 waxed cotton thread at each tacking point.

(b) Replacement. Replace an unserviceable or missing parachute inspection data pocket with a serviceable item from stock.

(8) *Pocket band.*

NOTE

A pocket band is located across each suspension line at the canopy skirt, except at lines 1 and 61.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged pocket band by fabricating according to the procedures in TM 10-1670-201-23/TO 13C-1-41, using a 6 3/8-inch length of type III nylon cord with seared ends and the specifics in table 3-3.

(9) *Cutter bracket panel reinforcement.*

NOTE

Cutter bracket panel reinforcements are located on the inside and the outside of the canopy skirt at lines 1 and 61 only.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged cutter bracket panel reinforcement by fabricating as follows:

1 Remove the cutter bracket from the original panel reinforcement by cutting the tacking securing the bracket to the reinforcement. Retain the bracket for further use, if serviceable.

2 Remove the inside and the outside panel reinforcements from the canopy skirt by cutting the stitching which secures the two pieces of reinforcement material to the canopy.

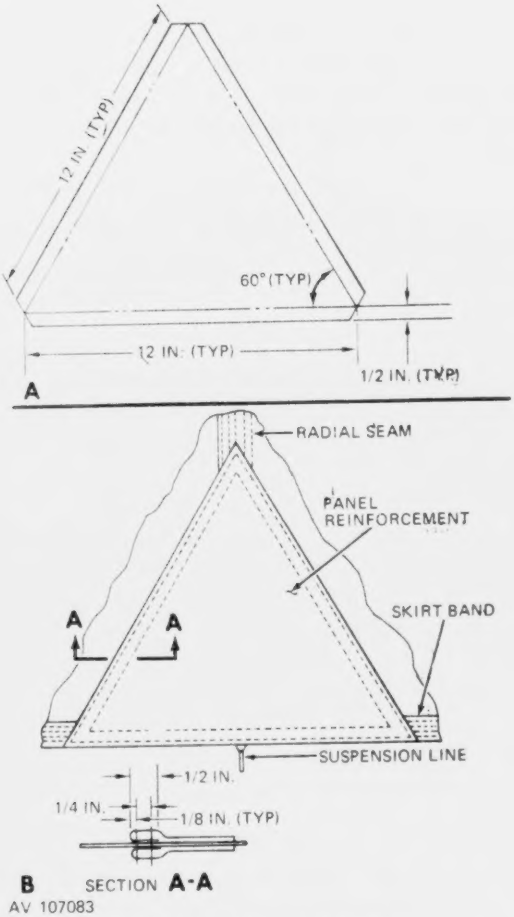
3 Cut two 13-inch-wide triangular-shaped pieces of type III 7.25-ounce nylon duck cloth.

4 Make a 1/2-inch-wide turnunder on each edge of one piece of cloth and trim the cloth piece to conform to the details in A, figure 3-93.

5 Position the folded cloth piece in the original reinforcement location on the inside of the canopy skirt and temporarily handtack the cloth to the canopy material using temporary tacking procedures in TM 10-1670-201-23/TO 13C-1-41.

6 Using the procedures in *4* and *5* above, position the second cloth piece in the original reinforcement location on the outside of the canopy skirt.

7 Secure the two panel reinforcements to the canopy by stitching two rows of stitching along each edge according to the details in B, figure 3-93. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.



A. Panel reinforcement pattern.
B. Installation details.

Figure 3–93. Cutter bracket panel reinforcement replacement details, G-11A 100-foot-diameter cargo parachute.

8 Remove the temporary tacking made in *5* and *6* above.

9 Attach a serviceable cutter bracket to the panel reinforcements using the procedures in paragraph (1) above.

(10) *Radial line reinforcement tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged upper, intermediate, or lower radial line reinforcement tape by fabricating using the following procedures:

1 Remove the original reinforcement tape by cutting the stitching securing the tape length to the canopy.

2 Cut a length of 1/2-inch-wide, type III nylon tape, 1 inch longer than the original tape finished length and sear the ends.

3 Make a 3/4-inch-long foldunder on one end of the tape length and a 1/4-inch-long foldunder on the opposite end.

4 Position the tape length in the original reinforcement tape location with the foldunders facing down and the 3/4-inch-long foldunder directed away from the skirt or vent band (lower or upper lateral band), as applicable (fig. 3-94).

5 Secure the tape length to the radial line by stitching a 3/16-inch-wide single row of double-throw zigzag stitching according to the details in figure 3-94, using the specifics in table 3-3.

NOTE

When installing the intermediate and the lower radial line reinforcement tapes at the canopy skirt, insure a sufficient amount of canopy fabric is allowed between the two zigzag stitch rows to form a 3/4-inch pucker in the material.

(11) *Radial seam.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

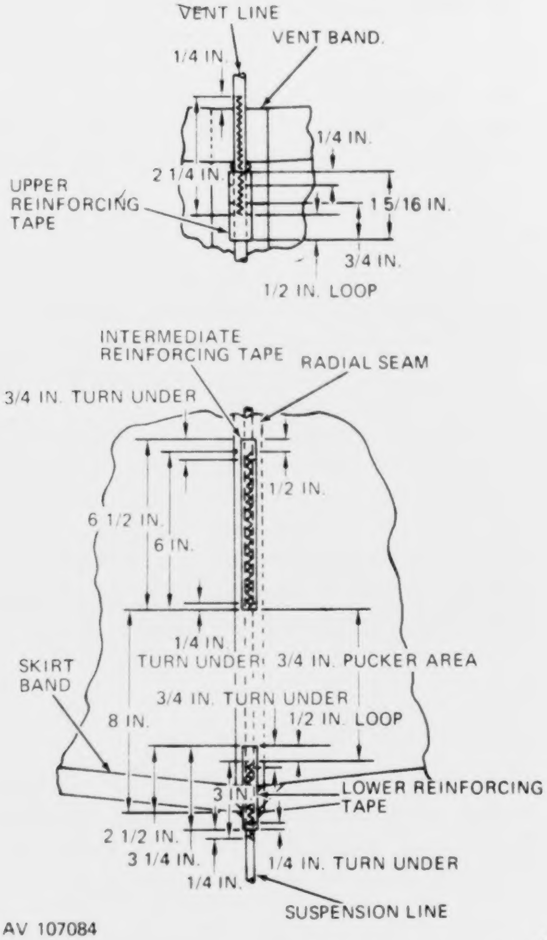

VENT LINE
VENT BAND
1/4 IN.
1/4 IN.
UPPER REINFORCING TAPE
2 1/4 IN.
1 5/16 IN.
3/4 IN.
1/2 IN. LOOP
INTERMEDIATE REINFORCING TAPE
RADIAL SEAM
3/4 IN. TURN UNDER
1/2 IN.
6 1/2 IN.
6 IN.
1/4 IN.
TURN UNDER
3/4 IN. PUCKER AREA
SKIRT BAND
3/4 IN. TURN UNDER
8 IN.
1/2 IN. LOOP
3 IN.
LOWER REINFORCING TAPE
2 1/2 IN.
3 1/4 IN.
1/4 IN.
1/4 IN. TURN UNDER
SUSPENSION LINE
AV 107084

Figure 3–94. Replacement details for radial line reinforcement tapes, G-11A 100-foot-diameter cargo parachute.

(b) Patching. Patch a hole or tear in a radial seam according to the procedures in TM 10-1670-201-23/TO 13C-1-41, using type II 1.6-ounce nylon parachute cloth and the specifics in table 3-3.

(12) *Reefing ring and reefing ring retainer.*

(a) Restitching. Restitch broken or loose stitching on the reefing ring retainer according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable or missing reefing ring with a serviceable item from stock. Replace a damaged or missing reefing ring retainer by fabricating as follows:

1 If applicable, remove the original reefing ring by cutting the stitching which secures the ring retainer to the inside of the canopy skirt band.

2 Cut a 5-inch length of type II nylon cord and sear the ends.

3 Center the cord length in a serviceable reefing ring and position the cord length on the inside of the canopy skirt band (lower lateral band) in the original ring retainer location.

4 Secure each end of the ring retainer with a 3/16-inch-wide by 2-inch-long row of double-throw zigzag stitching according to the details in figure 3-95, using the specifics in table 3-3.

(13) *Suspension riser.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

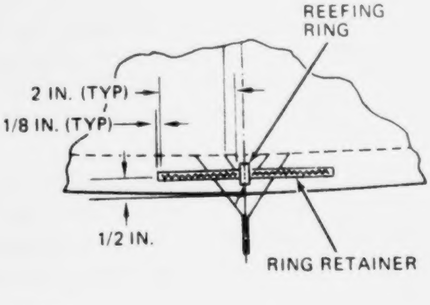

REEFING RING
2 IN. (TYP)
1/8 IN. (TYP)
1/2 IN.
RING RETAINER
AV 107085

Figure 3–95. Reefing ring and ring retainer replacement details, G-11A 100-foot-diameter cargo parachute.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/T.O.13C-1-41.

(c) Splicing. A suspension riser which is constructed of either 1-inch wide tubular nylon or type XVIII nylon webbing may be spliced. The material used for splicing must be the same material as the riser being spliced. Splicing may be made even though the webbing has been cut completely through or more than half way through or a lesser amount. Each suspension riser web is limited to one splice and each riser is limited to three splices for the entire riser. Splice a damaged suspension riser web as follows:

1 Lightly sear the damaged area to prevent the damaged webbing from fraying.

2 Cut a piece of type XVIII, 1-inch wide nylon webbing, or 1-inch wide tubular nylon webbing, whichever is applicable, so it will extend at least 5 inches beyond the damaged area on each side.

3 Cut three pieces of type XII, 1-23/32-inch wide nylon webbing, or 1-inch wide tubular nylon webbing whichever is applicable, so it will extend at least 5 inches beyond the damaged area on each side.

4 Take the type XII, 1-23/32-inch wide nylon webbing in 3-1/2-inch cut lengths and make a fixed keeper in the center of the splice over the damaged area, and at each end of the splice. The keepers at the ends of the splice shall be positioned so as to extend 5/8 inch beyond the end of the splice.

5 Secure the splice by stitching with a three-point W-W stitch pattern using specifics in table 3-3 and according to details in figure 3-96.

6 Deleted.

(d) Replacement. Replace an unserviceable suspension riser with a serviceable item from stock.

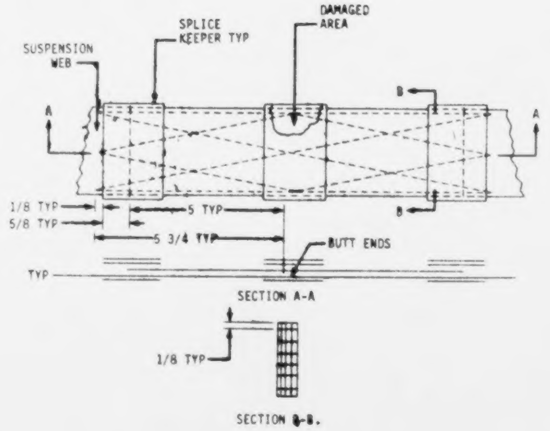


Figure 3-96. Method of splicing riser for G-11A 100-foot cargo parachute.

(14) *V-tab.*

(a) Restitching. Restitch broken or loose stitching according to origin construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged V-tab by fabricating according to the procedures in TM 10-1670-201-23/TO 13C-1-41, using 9/16-inch-wide, type I nylon webbing, and the specifics in table 3-3.

d. Replacement. An unserviceable G-11A 100-foot-diameter cargo parachute canopy will only be replaced as prescribed in Appendix C.

3–34. The Deployment Bag Bridle

a. Inspection. Inspect a bridle used with the G-11A 100-foot-diameter cargo parachute deployment bag in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a deployment bag bridle by cleaning the bridle webbing as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Restitching.* Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(2) *Retacking.* Replace broken or loose tacking which secures the buffer in the deployment line attaching loop by retacking according to original tacking details, using one turn double ticket No. 5 waxed cotton thread at each of the three tacking points. Secure the tacking ends at each tacking point with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch. inch.

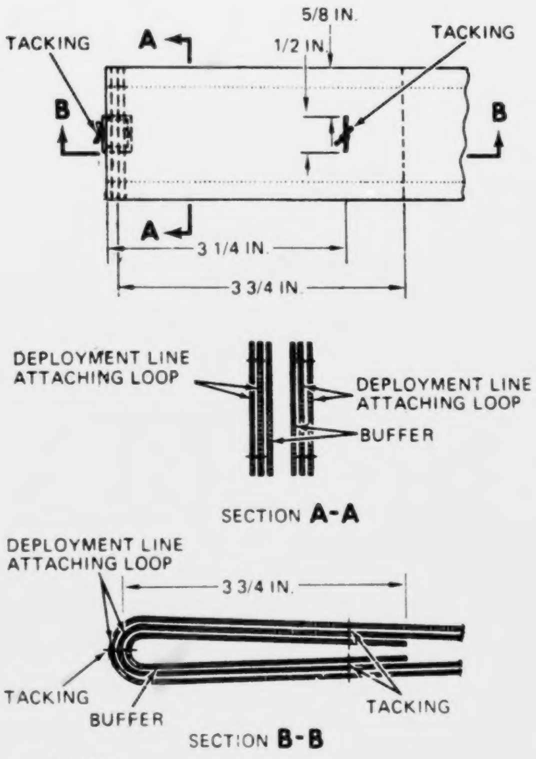
(3) *Replacing a loop buffer.* Replace a damaged or missing deployment line attaching op buffer by fabricating as follows:

(a) If applicable, remove the original buffer by cutting the tacking securing the buffer within the attaching loop. Insure the loop material is not damaged during the cutting process.

(b) Cut a 7 1/2-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

(c) Double the webbing length and position the folded webbing in the original buffer location within the bridle deployment line attaching loop.

(d) Secure the buffer to the loop webbing by handtacking at three points according to the details in figure 3-97, using one turn double, ticket No. 5 waxed cotton thread at each tacking point. Secure each of the tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.



AV 107087

Figure 3–97. Deployment bag bridle buffer replacement details, G-11A 100-foot-diameter cargo parachute.

(4) *Restenciling.* As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

d. Replacement. Replace an unserviceable deployment bag bridle with a serviceable item from stock.

3–35. The Deployment Bag

a. Inspection. Inspect a deployment bag used with the G-11A 100-foot-diameter cargo parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a G-11A 100-foot-diameter cargo parachute deployment bag by cleaning the bag material and associated components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a G-11A 100-foot-diameter cargo parachute deployment bag which requires the cutting of stitching or an original part, insure that adjacent bag material is not damaged during the cutting process.

(1) *Panels and flaps.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(c) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter and which is accessible using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3. There is no limit to the number of times a flap or panel may be darned.

(d) Patching. Patch a hole or tear which exceeds 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41, the specifics in table 3-3, and the following patching criteria:

NOTE

A deployment bag cover will not be patched.

1 Bag body. There is no limit to the number of patches that may be applied to the deployment bag body. However, each damaged area must be accessible and there must be at least 1 1/4 inches of undamaged material remaining on all sides of the affected area. In addition, a patch will not exceed 5 inches in length or diameter. Patch material will be of type I 17.55-ounce No. 8 cotton duck cloth.

2 Suspension line protector flap. There is no limit to the size or number of patches that may be applied to the suspension line protector flap. Patch material will be of type III 8.25-ounce cotton duck cloth.

(2) *Edge binding.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specfics in table 3-3.

(b) Splicing. An edge binding may be spliced an unlimited number of times as follows:

1 Cut a length of 3/4-inch-wide, type III cotton tape long enough to extend 1 inch beyond each side of the damaged area and wax the ends.

2 Make a 1/2-inch-lon foldunder on each end of the tape length.

3 Center and fold the tape lengthwise over the damaged area. Secure the splice by making two rows of stitching over the original stitching, the full length of the splice, to a point 1/2 inch beyond each end of the splice material according to the details in figure 3-98. Stitching will be made in accordance with TM 10-1670-102-23/TO 13C-1-41, using the specifics in table 3-3.

(3) *Grommet.*

(a) Reseating. Reseat a loos grommet using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Replacement. Replace an unserviceable No. 2 or No. 3 metallic grommet, as applicable, with a serviceable item from stock. Install a serviceable grommet as prescribed in TM 10-1670-201-23/TO 13C-1-41.

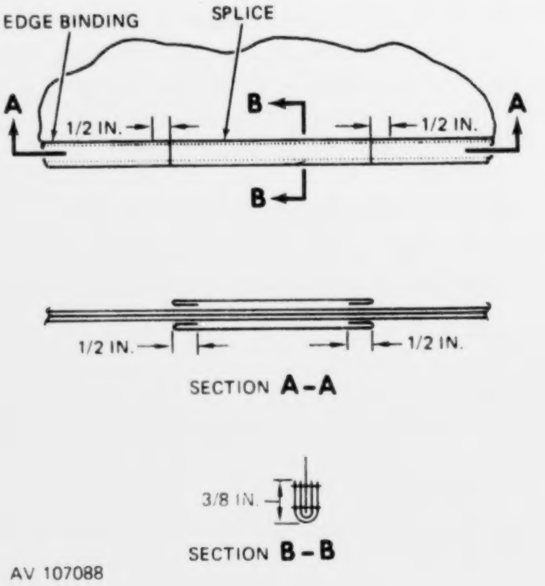

EDGE BINDING
SPLICE
A
A
B
B
1/2 IN.
1/2 IN.
1/2 IN.
1/2 IN.
SECTION A-A
3/8 IN.
SECTION B-B
AV 107088

Figure 3–98. Deployment bag edge binding splicing details, G-11A 100-foot-diameter cargo parachute.

(4) *Locking stow loop.*

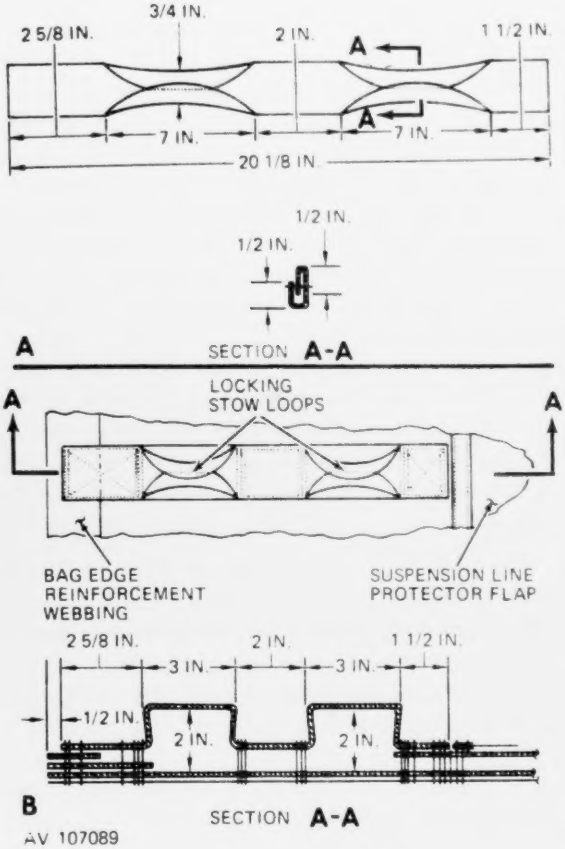
(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace damaged locking stow loops by fabricating as follows:

1 Cut and remove the stitching which secures the original loop webbing length between points 1 inch back from the bag edge reinforcement webbing and 1 1/2 inches back from the edge of the suspension line protector flap.

2 Remove the original locking stow loops by cutting the loop webbing length at the points specified in *1* above.

3 Cut a 20 1/8-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.


3/4 IN.
2 5/8 IN.
2 IN.
1 1/2 IN.
A
A
7 IN.
7 IN.
20 1/8 IN.
1/2 IN.
1/2 IN.
A
SECTION A-A
LOCKING
STOW LOOPS
A
A
BAG EDGE
REINFORCEMENT
WEBBING
SUSPENSION LINE
PROTECTOR FLAP
2 5/8 IN.
2 IN.
1 1/2 IN.
3 IN.
3 IN.
1/2 IN.
2 IN.
2 IN.
B
SECTION A-A
AV 107089

A. Construction details.
B. Installation details.

Figure 3–99. Deployment bag locking stow loop replacement details, G-11A 100-foot-diameter cargo parachute.

4 Using a suitable marking aid, mark the webbing length at points 2 5/8, 9 5/8, 11 5/8, and 18 5/8 inches from one end.

5 Between the 2 5/8- and 9 5/8-inch marks, roll 1/2 inch of each webbing edge in to the center of the webbing width and allow the webbing edges to overlap. Secure the overlapped webbing edges to the webbing length by stitching a single row of stitching according to the details in A, figure 3-99. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Repeat the procedure in *5* above for the 7-inch-long webbing area between the 11 5/8- and 18 5/8-inch marks made in *4* above.

7 Position the webbing length in the original loop webbing location on the deployment bag. Form the locking stow loops and secure the webbing length by stitching according to the details in B, figure 3-99. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Altering loop size. If the locking stow loops on a deployment bag do not conform to the dimensions shown in figure 3-99, the loops may be enlarged by alteration as follows:

1 Cut and remove the stitching from the inside of the front loop to the bag edge reinforcement webbing and from the inside of the back loop to the edge of the suspension line protector flap. Insure no material damage is incurred during the cutting process.

2 To insure the loop webbing does not pull away from the deployment bag, stitch a 1 1/2-inch-square single-X-box-stitch formation, with one double end, through the bag edge reinforcement webbing and the end of the locking stow loop webbing, according to the details in figure 3-100. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

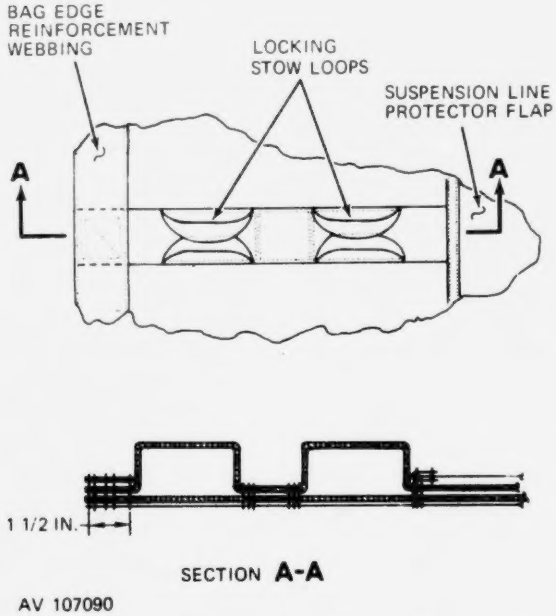
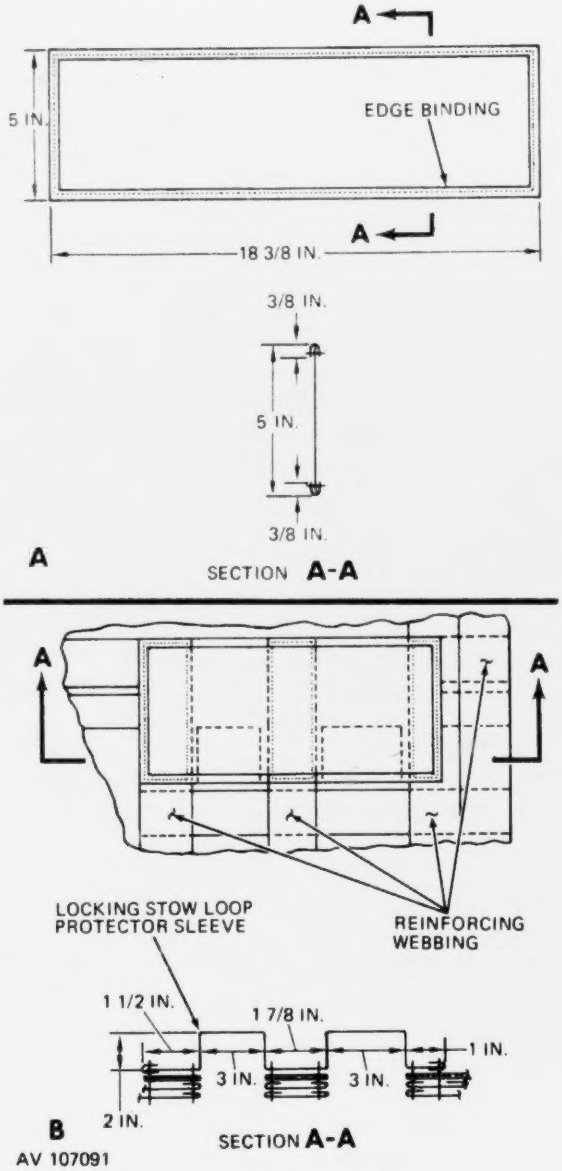

BAG EDGE REINFORCEMENT WEBBING
LOCKING STOW LOOPS
SUSPENSION LINE PROTECTOR FLAP
A
A
1 1/2 IN.
SECTION A-A
AV 107090

Figure 3–100. Deployment bag locking stow loop alteration details, G-11A 100-foot-diameter cargo parachute.


A
EDGE BINDING
5 IN.
A
18 3/8 IN.
3/8 IN.
5 IN.
3/8 IN.
A
SECTION A-A
A
A
LOCKING STOW LOOP PROTECTOR SLEEVE
REINFORCING WEBBING
1 1/2 IN.
1 7/8 IN.
1 IN.
3 IN.
3 IN.
2 IN.
B
SECTION A-A
AV 107091

A. Construction details.
B. Installation details.

Figure 3–101. Deployment bag locking loop protector sleeve replacement details, G-11A 100-foot-diameter cargo parachute.

(5) *Locking loop protector sleeve.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-102-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged locking loop protector sleeve by fabricating as follows:

1 Remove the original protector sleeve from the large end flap of the deployment bag by cutting the stitching securing the sleeve to the flap.

2 Cut a 5-inch-wide by 18 3/8-inch-long piece of type I 17.55-ounce No. 8 cotton duck cloth. Also, cut a 50-inch length of 3/4-inch-wide, type III cotton tape and wax the ends.

3 Center and fold the tape lengthwise along each edge of the cloth piece to form an edge binding. Secure the edge binding to the cloth by stitching a single stitch row along each edge of the cloth according to the details in A, figure 3-101. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41 using the specifics in table 3-3.

4 Position the cloth piece in the original sleeve location on the deployment bag large end flap. Form the two 3-inch-long loops in the cloth piece and secure the sleeve material by stitching according to the details in B, figure 3-101. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. Replace an unserviceable G-11A 100-foot-diameter cargo parachute deployment bag with a serviceable item from stock.

Section XI. THE 15-FOOT-DIAMETER CARGO EXTRACTION PARACHUTE

3–36. The Parachute Canopy

a. Inspection. Inspect a 15-foot-diameter cargo extraction parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 15-foot-diameter cargo parachute canopy by cleaning and drying the canopy and associated canopy components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 15-foot-diameter cargo extraction parachute canopy which requires the cutting of stitching or an original part, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Gore panel.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(c) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3. Each gore panel may be darned a maximum of three times.

(d) Patching. Patch a hole or tear that exceeds 3/4 inch in length or diameter according to the procedures in TM 10-1670-201-23/TO 13C-1-41, using type I 2.25-ounce nylon parachute cloth and the specifics in table 3-3. Each canopy section is limited to two patches.

(e) Replacement. Replace a gore panel which is damaged beyond repair by fabricating according to the gore section replacement procedures in TM 10-1670-201-23/TO 13C-1-41, using type I 2.25-ounce nylon parachute cloth and the specifics in table 3-3.

(2) *Panel edge reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A panel edge reinforcement may be spliced one time as follows:

1 Cut a length of 9/16-inch-wide, type I nylon webbing long enough to extend 6 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/16 inch in from each edge, the full length of the splice material, according to the details in figure 3-102. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

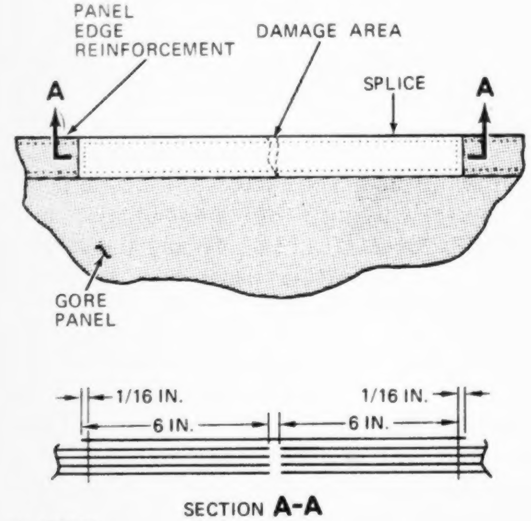


Figure 3-102. Panel edge reinforcement splicing details, 15-foot-diameter cargo extraction parachute.

(3) *Bridle centering line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bridle centering line by fabricating as follows:

1 Remove the original bridle centering line by cutting the stitching which secures each end of the line to an attaching vent line.

2 Cut a 7 3/4-inch of type IV coreless nylon cord and sear the ends.

3 Using a suitable marking aid, mark the cord length at the center and at a point 1 3/8 inches on each side of the center mark.

4 Position the cord length in the original centering line location and temporarily handtack the cord ends to the attaching vent line, using temporary tacking procedures outlined in TM 10-1670-201-23/TO 13C-1-41. Insure all vent lines pass freely through the loop formed at the center of the tacked line.

5 Secure each end of the bridle centering line to the attaching vent line by stitching a 3/16-inch-wide by 2 5/8-inch-long row of double-throw zigzag stitching from the 1 3/8-inch mark made in *3* above to a point 1/8 inch beyond the cord end (fig. 3-103). Stitching will be made using the specifics in table 3-3. Remove the tacking made in *4* above.

(4) *Suspension line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged suspension line by fabricating according to procedures in TM 10-1670-201-23/TO 13C-1-41, using type IV coreless nylon cord and the specifics in table 3-3.

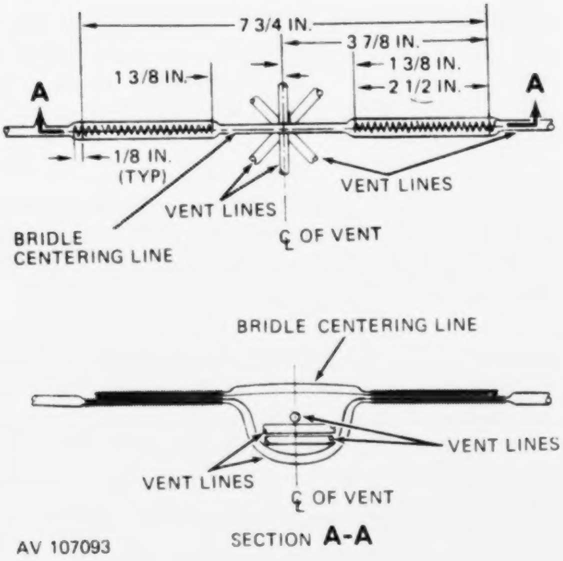


Figure 3–103. Bridle centering line replacement details, 15-foot-diameter cargo extraction parachute.

(5) *Vent line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged vent line by fabricating according to procedures in TM 10-1670-201-23/TO 13C-1-41, using type IV coreless nylon cord and the specifics in table 3-3.

(6) *Parachute connector link assembly.*

(a) Repair. Repair a parachute connector link assembly as prescribed in TM 10-1670-201-23/TO 13C-1-41. As required, tighten loose screws using a suitable sized flat-tip (common-head) screwdriver.

(b) Replacement. Replace an unserviceable or missing parachute connector link assembly with a serviceable item from stock.

(7) *Attachment loop (bridle loop).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged attachment loop (bridle loop) by fabricating as follows:

1 Cut a 20-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

2 Using a suitable marking aid, mark the webbing length at a point 5 inches from each end.

3 Between the two 5-inch marks made in *2* above, roll 1/2 inch of each webbing edge in to the center of the webbing width and allow the webbing edges to overlap. Secure the overlapped webbing edges to the webbing length by stitching a single row of stitching along the center of the webbing overlap and 1 1/2 inches along each rolled edge beyond the point of edge overlap (A, fig. 3-104). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

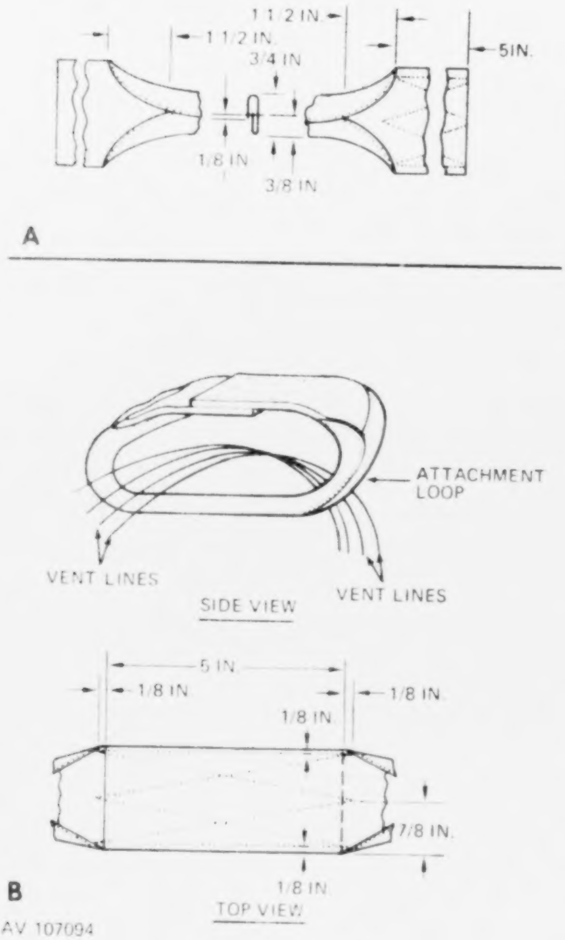
4 Pass one webbing end through the vent lines and join the webbing ends together above the vent lines with a 5-inch-long overlap (B). Insure the webbing length encircles all vent lines.

5 Secure the overlapped webbing ends together by stitching a 5-inch-long three-point-WW-stitch formation, with a 1/8-inch overstitch on each webbing end. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Remove the original attachment loop (bridle loop) by cutting the loop webbing.

(8) *Suspension line attaching loop.*

(a) Restitching. Restitch broken or loose stitching according to original



A. Construction details.
B. Installation details.

Figure 3-104. Attachment loop replacement details, 15-foot-diameter cargo extraction parachute.

construction details and TM 10-1670-201-23/TO 13C-1-41, using specifics in table 3-3.

(b) Replacement. Replace a damaged suspension line attaching loop by fabricating as follows:

1 Cut two 15-inch lengths of 1-inch-wide, type II nylon webbing and sear the ends.

2 Place one webbing length over the second webbing length and aline the ends. Secure the two webbing lengths together by stitching a 15-inch-long row of stitching, 1/8 inch in, along each side edge. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

3 Using a suitable marking aid, mark the stitched webbing length at a point 6 inches from one end and 4 inches from the opposite end.

4 Remove the original suspension line attaching loop by cutting the loop material at a point immediately below the lower edge of the lower lateral band. If applicable, slide the suspension line upper loop off the cut attaching loop material.

5 Position the webbing end with the 6-inch mark over the radial webbing on the canopy outside and aline the 6-inch mark with the lower edge of the lower lateral band. Temporarily handtack the webbing end in position according to temporary tacking procedures in TM 10-1670-201-23/TO 13C-1-41.

6 Pass the webbing length free end through the loop located on the upper end of the original suspension line to the canopy inside. Position the webbing end over the radial webbing with the 4-inch mark alined with the lower edge of the lower lateral band. Temporarily handtack the webbing end in position on the canopy inside according to temporary tacking procedures in TM 10-1670-201-23/TO 13C-1-41.

7 Secure the tacked webbing ends to the radial webbing by stitching a 5-inch-long three-point-WW-stitch formation, with a 1/8-inch overstitch on each end, according to the details in figure 3-105. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Remove the tacking made in *5* and *6* above.

(9) *Pocket band.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

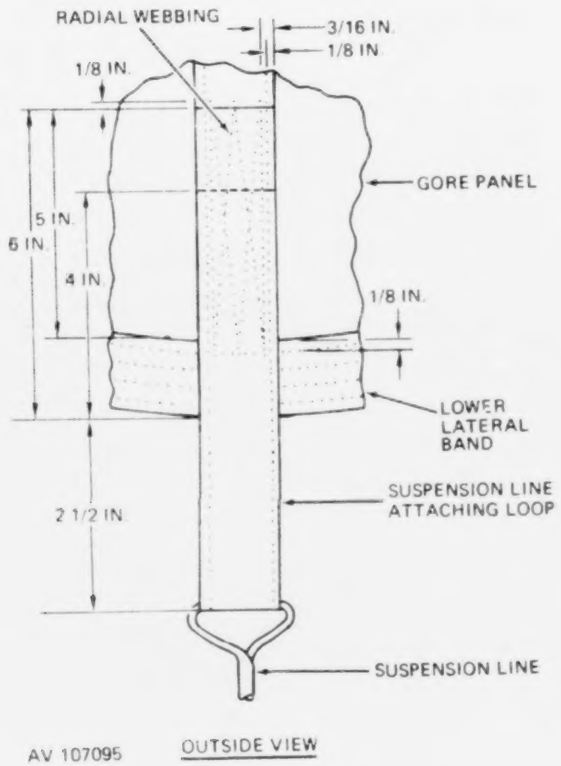


Figure 3-105. Suspension line attaching loop replacement details, 15-foot-diameter cargo extraction parachute.

(b) Replacement. Replace a damaged pocket band by fabricating according to procedures in TM 10-1670-201-23/TO 13C-1-41, using an 8 1/2-inch length of 1-inch-wide, type II nylon webbing and the specifics in table 3-3.

(10) *Lateral band (upper and lower).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing.

1 Upper lateral band. Splice a damaged upper lateral band as prescribed in TM 10-1670-201-23/TO 13C-1-41, using 1-inch-wide, type II nylon webbing and the specifics in table 3-3.

2 Lower lateral band. A lower lateral band is limited to one splice which will be made as follows:

(a) Place the canopy on a repair table with the damaged area facing up.

(b) If the lower lateral band is damaged between two lengths of radial webbing, remove the pocket band from each side of the damaged area by cutting the band material as close as possible to the single-X-box-stitch formation. Allow the stitched band ends to remain attached to the lower lateral band. Should the lateral band damage extend into a radial webbing, remove the pocket band at the damaged radial webbing and the pocket bands located on each side of the affected radial webbing using the procedure previously prescribed.

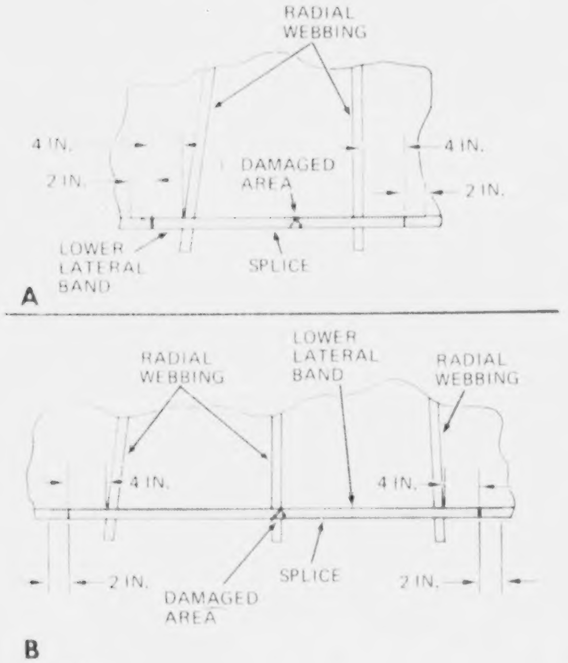
(c) To splice a lower lateral band damaged between two radial webbing lengths, cut a length of 1-inch-wide, type II nylon webbing long enough to extend 4 inches beyond the radial webbing on each side of the damaged area (A, fig. 3-106) and sear the ends. If the damage extends into a radial webbing, cut a length of the splicing material long enough to extend 4 inches beyond the radial webbing lengths located on each side of the damaged radial webbing (B) and sear the ends.

(d) Center the splice material over the damaged area and secure the splice by stitching four rows of stitching lengthwise along the splice to a point 2 inches beyond each end of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(e) Replace the pocket bands removed in (b) above as prescribed in paragraph (9) above.

(11) *Radial webbing.*

(a) Restitching. Restitch broken or loose stitching according to original


RADIAL WEBBING
4 IN.
2 IN.
DAMAGED AREA
4 IN.
2 IN.
LOWER LATERAL BAND
SPLICE
A
RADIAL WEBBING
LOWER LATERAL BAND
RADIAL WEBBING
4 IN.
4 IN.
2 IN.
DAMAGED AREA
SPLICE
2 IN.
B

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A Splicing damaged area between radial webbing lengths.

B. Splicing damaged area extending into a radial webbing.

Figure 3-106. Lower lateral band splicing details, 15-foot-diameter cargo extraction parachute.

construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A radial webbing length may be spliced one time provided the damaged area does not exceed 12 inches in length. Splicing will be performed as follows:

1 Cut a length of 1-inch-wide, type II nylon webbing long enough to extend 12 inches beyond each end of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching according to the details in figure 3-107. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

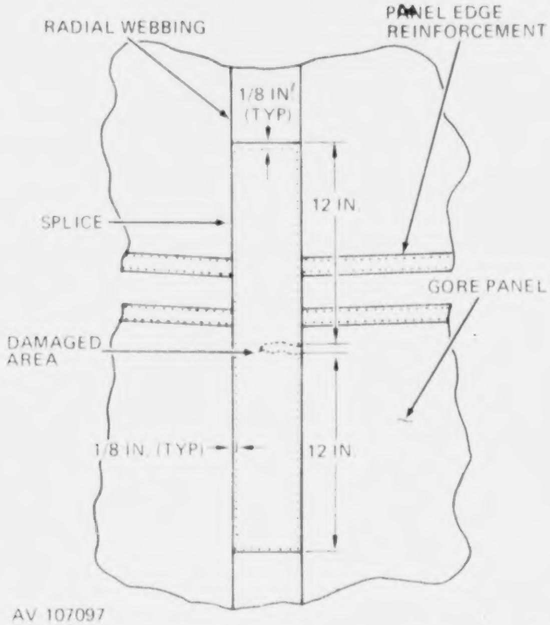
RADIAL WEBBING
PANEL EDGE REINFORCEMENT
1/8 IN. (TYP)
12 IN.
SPLICE
GORE PANEL
DAMAGED AREA
1/8 IN. (TYP)
12 IN.

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Figure 3-107. Radial webbing splicing details, 15-foot-diameter cargo extraction parachute.

(c) When radial webbing stitching has failed and section separation from the radial webbing has occured at the leading or trailing edge of the ringslots, the repair will be accomplished as follows:

1. Restitch failure in accordance with original construction. Sew a double throw zig-zag stitching across the width of the radial webbing at the leading/trailing edge of the ringslot. The zig-zag stitching should be centered on the width of the reinforced hem of the leading/trailing edge and will be stitched in accordance with TM 10-1670-201-23/TO 13C-1-41 using specifics in table 3-3.

2. As an option, if a zig-zag sewing machine is not available, a box stitch pattern (double row stitching at the box ends) 1-¼ inches in length may be used. The box should start on the reinforced hem of the leading/trailing edge, approximately 1/8 inches from the edge of the ring, and proceed in length along the radial seam of the ring.

3–37. The Deployment Bag

a. Inspection. Inspect a deployment bag used with the 15-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 15-foot-diameter cargo extraction parachute deployment bag by cleaning the bag material and associated components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 15-foot-diameter cargo extraction parachute deployment bag which requires the cutting of stitching or an original part, insure that adjacent bag material is not damaged during the cutting process.

(1) *Grommet.*

(a) Reseating. Reseat a loose grommet using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Replacement. Replace an unserviceable size 0 metallic grommet with a serviceable item from stock. Install a serviceable grommet as prescribed in TM 10-1670-201-23/TO 13C-1-41.

(2) *Retainer band keeper.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged retainer band keeper by fabricating as follows:

1 Remove the original retainer band keeper by cutting the stitching securing the keeper webbing to the suspension line stowage flap and the inside of the bag bottom panel.

2 Cut a 17 1/2-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

3 Make a 1-inch-long turnunder on each end of the webbing length and position the webbing in the original keeper location with the turnunders facing down.

4 Secure each end of the webbing length to the deployment bag by stitching a single-X-box-stitch formation, with one double end, according to the details in figure 3-108. Further, using the criteria in figure 3-108, stitch four lateral rows of stitching across the webbing width at two points to form three equal sized loops in the webbing length. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(3) *V-ring and V-ring keeper.*

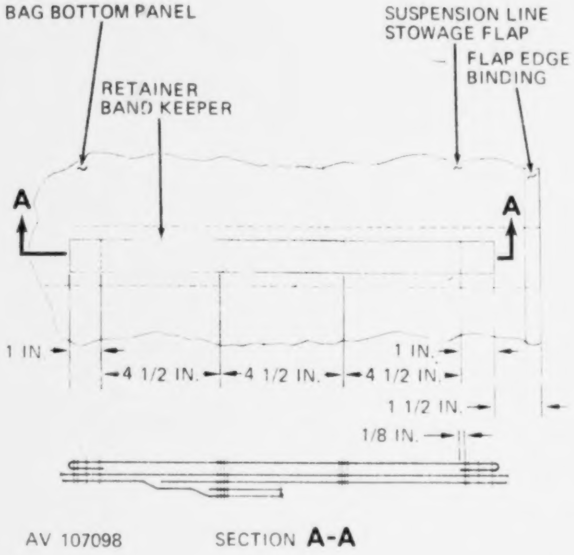

Figure 3–108. Deployment bag retainer band keeper replacement details, 15-foot-diameter cargo extraction parachute.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable V-ring with a serviceable item from stock and replace a V-ring keeper by fabricating as follows:

1 Remove the original V-ring by cutting the V-ring keeper material as close as possible to the V-ring. Trim the cut ends of the original keeper material to allow the webbing ends to lie flat.

2 Cut a 6 1/2-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

3 Pass one end of the webbing length through the rectangular slot in a serviceable V-ring and center the webbing in the slot.

4 Make a 1 1/2-inch-long turnunder on each end of the webbing length and

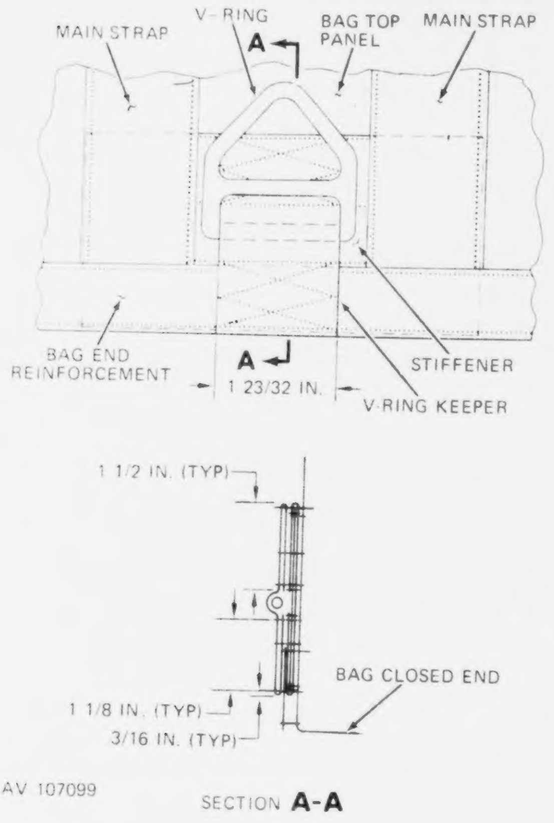

Figure 3-109. Deployment bag V-ring and V-ring keeper replacement details, 15-foot-diameter cargo extraction parachute.

position the webbing and the V-ring in the original V-ring location. Aline the webbing folded ends with the outside ends of the original V-ring keeper.

5 Secure each folded end of the webbing length to the deployment bag by stitching a three-point-WW-stitch formation according to the details in figure 3-109. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(4) *Bent V-ring and V-ring keeper.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable bent V-ring with a serviceable item from stock and replace a bent V-ring keeper by fabricating as follows:

1 Remove the original bent V-ring by cutting the V-ring keeper material as close as possible to the V-ring. Further cut a suitable amount of stitching on one of the adjacent main straps to permit removal of the ring from the deployment bag. Trim the original keeper end to allow the webbing to lie flat.

2 Position and secure a serviceable bent V-ring and keeper using the procedures in paragraphs *c.(3)(b)2* through *5* above. Insure each of the extended ends of the bent V-ring are located under the adjacent main straps as in original construction.

3 Replace the main strap stitching cut in *1* above by restitching according to original construction details, using the specifics in table 3-3. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

(5) *Bag retaining line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bag retaining line by fabricating as follows:

1 Remove the original bag retaining line by cutting the line at the retaining line attaching loop on the bag inside.

CAUTION

Do not cut or break the threads in the type IV coreless nylon cord casing while fabricating a bag retaining line.

2 Cut a 34-inch length of type IV coreless nylon cord and taper-cut each end by 1/2 inch.

3 Using a suitable marking aid, mark the cord length at points 4, 9, and 13 1/2 inches from one cord end.

4 Pass the marked cord end through the retaining line attaching loop on the bag inside and center the loop between the 4- and 9-inch marks on the cord.

5 Insert a suitable splicing aid into the cord casing at the 13 1/2-inch mark and work the splicing aid through the cord casing to the outside at the 9-inch mark.

6 Attach the tapered cord end nearest the 4-inch mark to the splicing aid and work the aid back through the cord casing until the 4- and 9-inch marks are alined.

7 Hold the alined marks together and work the splicing aid and tapered cord end to the outside of the 13 1/2-inch mark.

8 Remove the tapered cord end from the splicing aid. While holding the alined 4- and 9-inch marks together, stretch the cord length to allow the tapered cord end to recede inside the cord casing.

9 Secure the formed line loop by stitching a 3/16-inch-wide by 2-inch-long row of double-throw zigzag stitching according to the details in figure 3-110, using the specifics in table 3-3.

10 Using a suitable marking aid, mark the cord running end at points 4, 17, and 21 1/2 inches from the tapered end.

11 Cut a 12-inch length of 1 1/2-inch-wide, type I cotton tape and wax the ends.

12 Fold the tape length in half lengthwise and aline the edges. Secure the alined edges by stitching a 12-inch-long row of stitching, 1/8 inch in from the alined edges. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

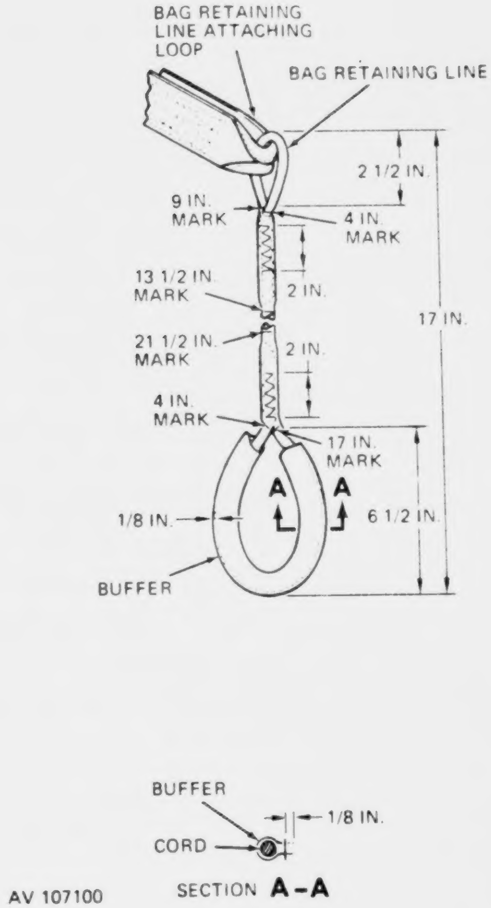

Figure 3–110. Deployment bag retaining line replacement details, 15-foot-diameter cargo extraction parachute.

13 Pass the cord length free end through the buffer made in *12* above and locate the buffer between the 4- and 17-inch marks.

14 Insert a suitable splicing aid into the cord casing at the 21 1/2-inch mark and work the splicing aid through the cord casing to the outside at the 17-inch mark.

15 Attach the cord tapered free end to the splicing aid and work the aid back through the cord casing until the 4- and 17-inch marks are alined.

16 Hold the alined marks together and work the splicing aid with the attached cord end to the outside at the 21 1/2-inch mark.

17 Remove the tapered cord end from the splicing aid. While holding the alined 4- and 17-inch marks together, stretch the cord length to allow the tapered cord end to recede into the cord casing.

18 Secure the second line loop using the procedure in 9 above and the specifics in table 3-3.

(6) *Pendulum line.* A pendulum line which is damaged or does not conform to the length criteria prescribed in this paragraph will be replaced by fabricating as follows.

(a) Remove the original pendulum line by cutting the loop formed in the line at the deployment bag pendulum line attaching loop.

CAUTION

Do not cut or break the threads in the type IV coreless nylon cord casing while fabricating a pendulum line.

(b) Cut an 85-inch length of type IV coreless nylon cord. Taper-cut 1/2 inch of one cord end and sear the opposite cord end.

(c) Using a suitable marking aid, mark the cord length at points 6 1/2 and 8 inches from the cord tapered end.

(d) Insert a suitable splicing aid into the cord casing at the 8-inch mark and work the aid through the cord to the outside at the 6 1/2-inch mark.

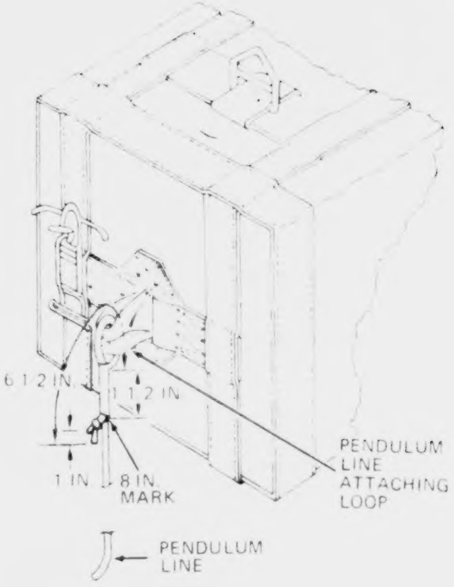

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Figure 3-111. Pendulum line replacement details, 15-foot-diameter cargo extraction parachute

(e) Pass the tapered cord end through the deployment bag pendulum line attaching loop and attach the tapered end to the splicing aid.

(f) Pull the splicing aid back into the cord casing at the 6 1/2-inch mark and work the aid back through the cord casing to the outside at the 8-inch mark (fig. 3-111).

(g) Remove the tapered cord end from the splicing aid. Sear the tapered end and make an overhand knot in the cord running end at a point 1 inch back from the seared tapered end. Stretch the cord loop to draw the knot against the cord casing.

(7) *Bridle loop strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bridle loop strap, which includes damage to either the bag retaining line attaching loop or the pendulum line attaching loop, by fabricating as follows:

1 Remove the parachute inspection data pocket (log record pocket) from the main strap at the closed end of the bag by cutting the stitching securing the pocket to the strap. Retain the pocket for further use, if serviceable.

2 If the attached pendulum line and/or the bag retaining line are serviceable, remove the line(s) from the applicable attaching loop(s) by cutting the loop webbing. Retain the line(s) for further use.

3 Remove each of the bridle loop strap ends on the bag outside by cutting the webbing at a point adjacent to the end of the WW-stitch formation securing the webbing under the main strap.

4 Invert the deployment bag to locate the bag inside to the outside and cut each of the strap ends at a point adjacent to the end of the WW-stitch formation.

5 Remove the bridle loop strap from the deployment bag by pulling the pendulum line attaching loop (outer loop) and the strap outside ends back through the bag end slot.

6 Cut a 10-, 11 1/4-, and 17 3/4-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

7 Using a suitable marking aid, mark the 10-inch webbing length at points 2 3/4 and 7 3/4 inches from one end. Mark the 11 1/4-inch webbing length at a point 2 7/8 inches from each end. Mark the 17 3/4-inch webbing length at points 2 7/8 and 6 3/8 inches from each end.

8 Between the two marks made on the 10-inch webbing length, roll the webbing edges in toward the center of the webbing width and secure each of the rolled edges by stitching a 5-inch-long row of stitching according to the details in A, figure 3-112. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

9 Repeat the procedures in *8* above for the 5-inch-long area between the two 6 3/8-inch marks on the 17 3/4-inch-long webbing length.

10 Double the 10-inch webbing length and aline the 2 3/4-inch and 7 3/4-inch marks to allow one webbing end to overlap the opposite end by 1/2 inch.

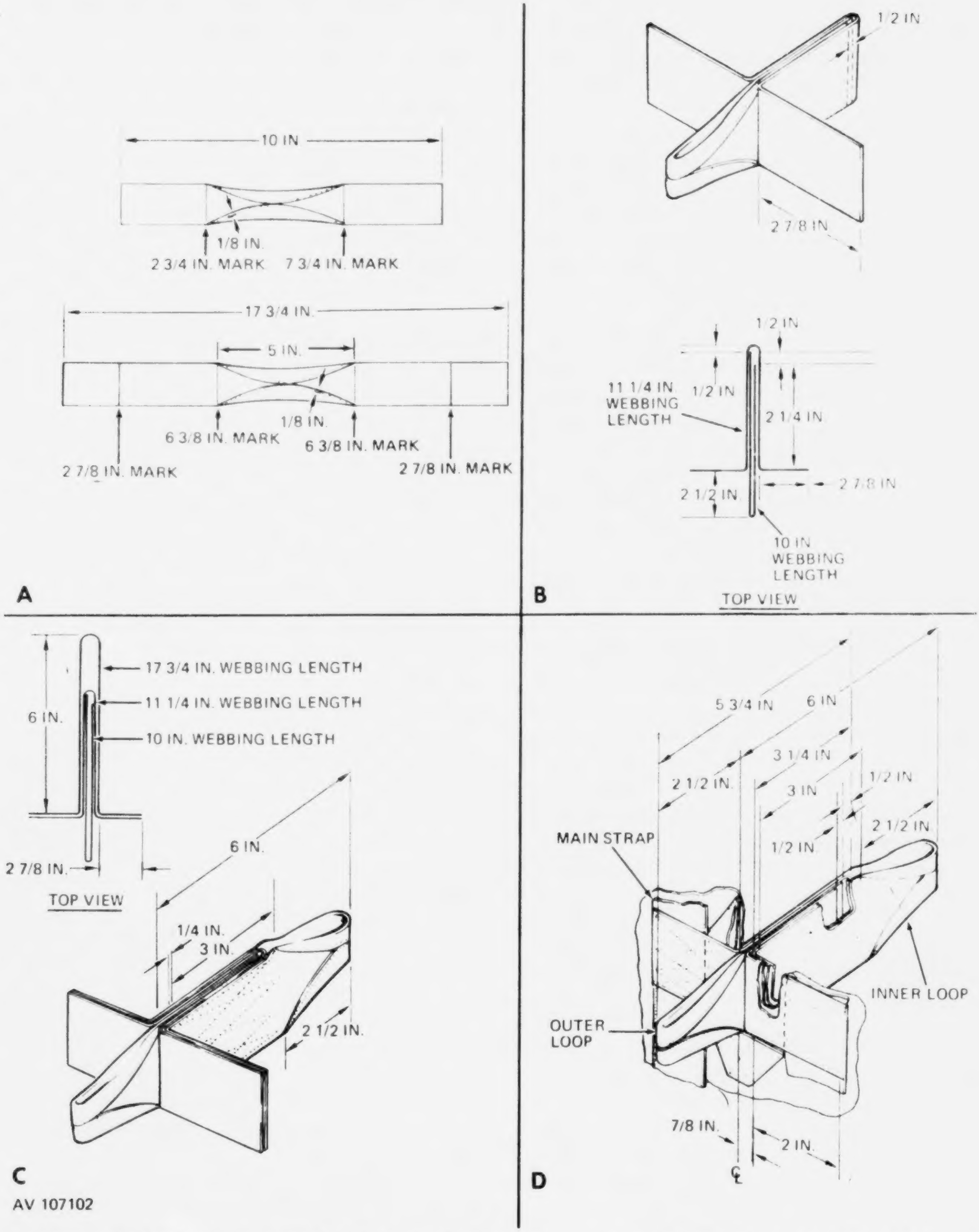
11 Double the 11 1/4-inch webbing length and fold back each end at the 2 7/8-inch mark.

12 Insert the ends of the folded 10-inch webbing length between the ends of the folded 11 1/4-inch webbing (B). Aline the marks on the folded 10-inch-long webbing with the 2 7/8-inch marks on the 11 1/4-inch-long webbing.

13 Double the 17 3/4-inch webbing length and position the folded webbing ends to the outside of the folded 10- and 11 1/4-inch-long webbings as shown in figure 3-112. Secure the assembled webbing lengths together by stitching a 3-inch-long four-point-WW-stitch formation according to the details in C, figure 3-112, using the specifics in table 3-3. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

14 Pass the pendulum line attaching loop (outer loop) and the 2 7/8-inch-long ends of the 11 1/4-inch-long webbing through the deployment bag end slot. Reinvert the bag to locate the bag main straps on the outside.

15 Position each of the 2 7/8-inch-long webbing ends extending from the bag end slot over the adjacent original bridle strap loop end and the main strap. Aline each webbing edge with the main strap outer edge.


10 IN.
1/8 IN.
2 3/4 IN. MARK
7 3/4 IN. MARK
17 3/4 IN.
5 IN.
1/8 IN.
6 3/8 IN. MARK
6 3/8 IN. MARK
2 7/8 IN. MARK
2 7/8 IN. MARK
A
1/2 IN.
2 7/8 IN.
1/2 IN.
11 1/4 IN. WEBBING LENGTH
1/2 IN.
2 1/4 IN.
2 1/2 IN.
2 7/8 IN.
10 IN. WEBBING LENGTH
B
TOP VIEW
17 3/4 IN. WEBBING LENGTH
11 1/4 IN. WEBBING LENGTH
10 IN. WEBBING LENGTH
6 IN.
2 7/8 IN.
TOP VIEW
6 IN.
1/4 IN.
3 IN.
2 1/2 IN.
C
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5 3/4 IN.
6 IN.
3 1/4 IN.
2 1/2 IN.
3 IN.
1/2 IN.
2 1/2 IN.
1/2 IN.
MAIN STRAP
INNER LOOP
OUTER LOOP
7/8 IN.
2 IN.
℄
D

A. Construction details for the 10- and 17 3/4-inch webbing lengths.
B. The 10- and 11 1/4-inch webbing assembly details.
C. Bridle loop strap webbing assembly completed.
D. Installation details.

Figure 3-112. Deployment bag bridle loop strap replacement details, 15-foot-diameter cargo extraction parachute.

16 Aline the 2 7/8-inch-long webbing ends located on the bag inside with the outside webbing ends. Secure each side of the bridle loop strap to the deployment bag by stitching a 2-inch-long four-point-WW-stitch formation according to the details in D, figure 3-112. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

17 Attach a serviceable pendulum line to the strap outer loop using the procedures in paragraph (6) above. Further, attach a serviceable bag retaining line to the strap inner loop as prescribed in paragraph (5) above.

(8) *Bag closing loop (top and bottom).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bag closing loop by fabricating as follows:

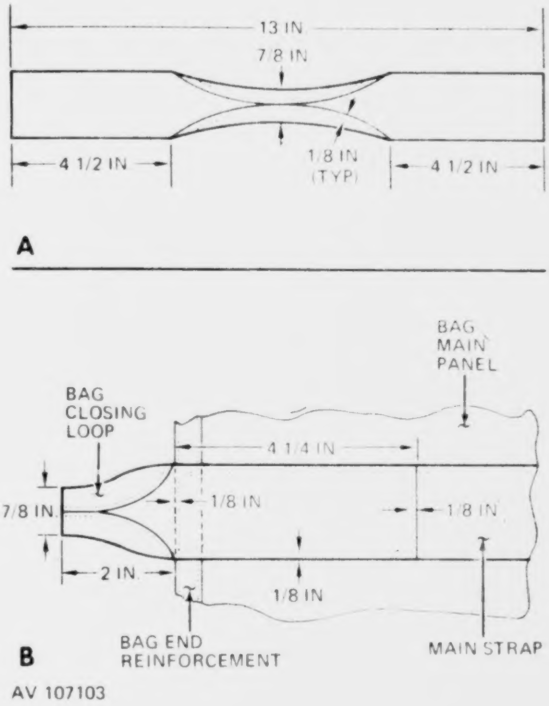
1 Remove the original closing loop by cutting the loop webbing flush along the edge of the bag end reinforcement.

2 Cut a 13-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

3 Mark the webbing length at a point 4 1/2 inches from each end.

4 Between the two marks made in *3* above, roll the webbing edges in to the center of the webbing width and secure each rolled edge by stitching a 4-inch-long row of stitching according to the details in A, figure 3-113. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Double the webbing length with rolled edges facing out and aline the webbing ends.



A. Construction details.
B. Installation detals.

Figure 3-113. Deployment bag closing loop replacement details, 15-foot-diameter cargo extraction parachute.

6 Position the formed loop in the original closing loop location with the alined webbing end placed over the applicable main strap and the bag end reinforcement. Secure the webbing ends to the bag end reinforcement and the main strap by stitching a 4 1/4-inch-long single-X-box-stitch formation, with two double ends, according to the details in B, figure 3-113. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(9) *Parachute inspection data pocket (log record pocket).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a missing or unserviceable parachute inspection data pocket with a serviceable item from stock. Install the replacement pocket in the original pocket location according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(10) *End slot reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged end slot reinforcement by fabricating as follows:

NOTE

The end slot reinforcement will only be replaced when the bridle loop strap is to be replaced.

1 Remove the original bridle loop strap as prescribed in paragraph (7) above.

2 Remove the original end slot reinforcement from the bag outside by cutting the stitching securing the reinforcement to the deployment bag.

3 Cut a 10-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

4 Fold the webbing length according to original construction details.

5 Secure the folded webbing in the original reinforcement location by stitching according to the details in figure 3-114. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

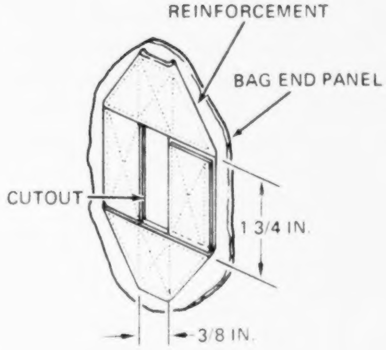


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Figure 3-114. Deployment bag end slot reinforcement replacement details, 15-foot-diameter cargo extraction parachute.

6 Replace the bridle loop strap as prescribed in paragraph (7) above.

(11) *Retainer band keeper reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged retainer band keeper reinforcement by fabricating as follows:

1 Remove that portion of the retainer band keeper which is secured to the inside of the suspension line stowage flap by cutting the applicable stitching.

2 Turn the flap to locate the flap outside facing up and cut the stitching securing the edge binding tape over the end of the applicable damaged reinforcement. Cut the stitching to a point 2 inches beyond each edge of the reinforcement.

3 Cut an 8-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

4 Position the webbing length over the damaged reinforcement on the outside of the suspension line stowage flap and insure one webbing end is alined with the original reinforcement end at the outer edge of the suspension line stowage panel.

5 Fold the loose edge binding back and secure the webbing length over the original reinforcement by stitching a box-stitch formation, 1/8 inch in from each edge, the full length of the webbing. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Reposition the flap edge binding in the original location and restitch the binding according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Lock stitching ends by 3/4 inch.

7 Turn the flap to locate the flap inside facing up and reposition the retainer band keeper in the original location. Secure the keeper by restitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(12) *Tie loop and tie loop reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. When either a tie loop on the bag inside or a tie loop reinforcement on the bag outside is damaged, the replacement action will include both items. Replace a tie loop and tie loop reinforcement by fabricating as follows:

1 Remove the applicable original tie loop and tie loop reinforcement by cutting the stitching that secures both items to the deployment bag.

2 Cut an 8-inch length of 1-inch-wide, type IV nylon webbing and a 3-inch length of 1 1/2-inch-wide, type IV nylon webbing. Sear the ends of both webbing lengths.

3 Make a 1/2-inch-long turnunder on each end of the 3-inch webbing length and position the folded webbing in the original tie loop reinforcement location on the deployment bag outside with the turnunder ends facing down. Secure the replacement reinforcement to the deployment bag outside by making a single row of stitching, 1/8 inch in, along each outside edge (A, fig. 3-115). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 Double the 8-inch webbing length, aline the ends, and position the folded webbing in the original tie loop location on the inside of the deployment bag. Secure the replacement tie loop to the deployment bag and tie loop reinforcement by stitching a 3/4-inch-wide by 1-inch-long single-X-box-stitch formation with one double end (B). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(13) *Safety cord.*

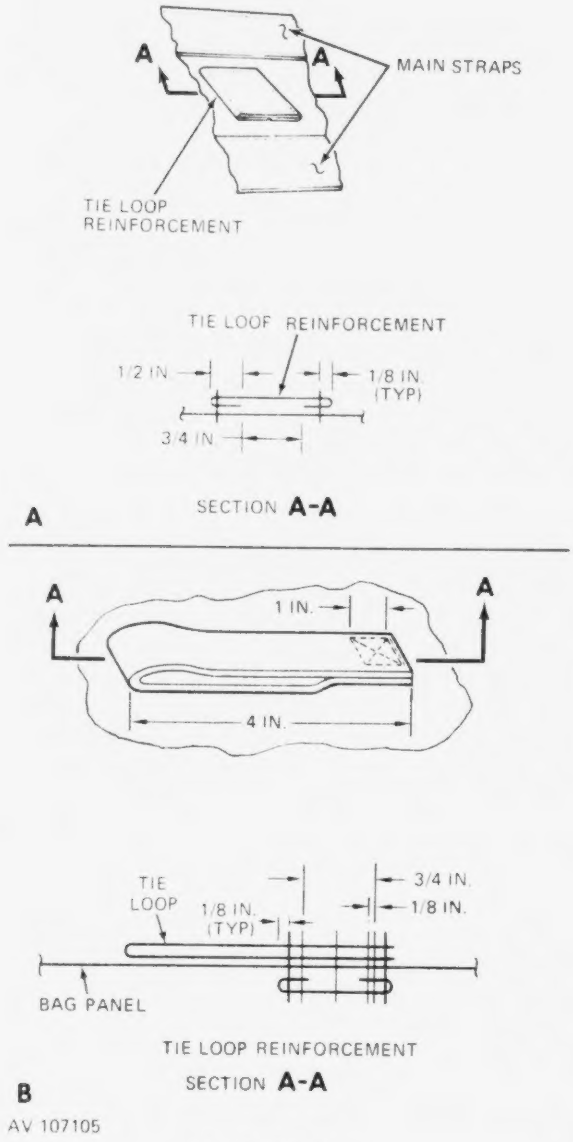
(a) Restitching. Restitch loose or broken stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged safety cord by fabricating as follows:

1 Remove the original safety cord from the bottom bag closing loops by cutting the cord end loops.

2 Cut a 21-inch length of type IV coreless nylon cord and taper-cut each end by 1/2 inch.

3 Using a suitable marking aid, mark the cord length at points 3, 5, and 8 inches from one tapered end.


A
A
MAIN STRAPS
TIE LOOP REINFORCEMENT
TIE LOOP REINFORCEMENT
1/2 IN
1/8 IN. (TYP)
3/4 IN
SECTION A-A
A
A
A
1 IN.
4 IN.
TIE LOOP
1/8 IN. (TYP)
3/4 IN.
1/8 IN.
BAG PANEL
TIE LOOP REINFORCEMENT
SECTION A-A
B
AV 107105

A. Outside view.

B. Inside view.

Figure 3–115. Deployment bag tie loop and tie loop reinforcement installation details, 15-foot-diameter cargo extraction parachute.

4 Insert a suitable splicing aid into the cord casing at the 8-inch mark and work the aid through the cord to the outside at the 5-inch mark.

5 Pass 3 inches of the marked cord end through one bottom bag closing loop and attach the tapered end to the splicing aid.

6 Pull the splicing aid with the attached cord end back into the cord casing at the 5-inch mark and work the aid back through the cord casing until the 3- and 5-inch marks are alined.

7 Hold the alined marks together and work the splicing aid and tapered cord end to the outside at the 8-inch mark.

8 Remove the tapered cord end from the splicing aid and while holding the alined 3- and 5-inch marks together, stretch the cord length to allow the tapered cord end to recede inside the cord casing.

9 Secure the formed safety cord end loop by stitching a 3/16-inch-wide by 3-inch-long row of double-throw zigzag stitching according to the details in figure 3-116, using the specifics in table 3-3.

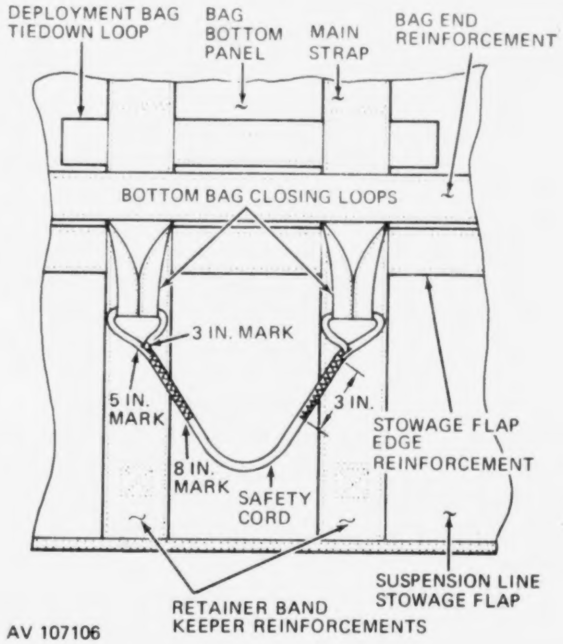

DEPLOYMENT BAG TIEDOWN LOOP
BAG BOTTOM PANEL
MAIN STRAP
BAG END REINFORCEMENT
BOTTOM BAG CLOSING LOOPS
3 IN. MARK
5 IN. MARK
3 IN.
8 IN. MARK
SAFETY CORD
STOWAGE FLAP EDGE REINFORCEMENT
SUSPENSION LINE STOWAGE FLAP
RETAINER BAND KEEPER REINFORCEMENTS
AV 107106

Figure 3–116. Deployment bag safety cord replacement details, 15-foot-diameter cargo extraction parachute.

10 Mark and attach the cord running end to the opposite bottom bag closing loop using the procedures in *3* through *9* above.

(14) *Edge binding.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. An edge binding may be spliced an unlimited number of times using the procedures in TM 10-1670-201-23/TO 13C-1-41, 3/4-inch-wide, type III nylon tape, and the specifics in table 3-3.

(15) *Suspension line stowage flap.*

(a) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3.

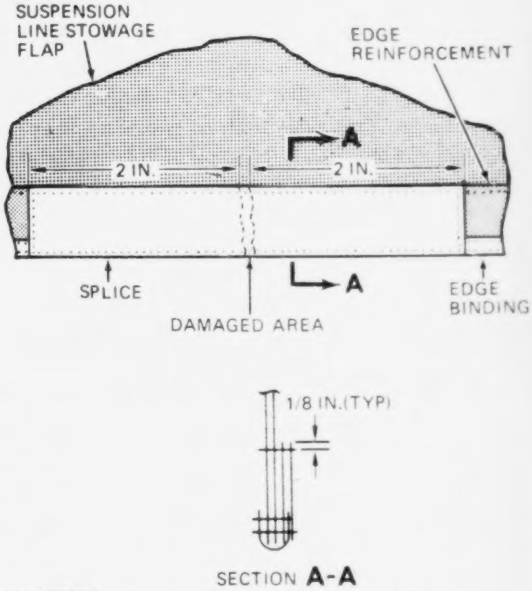
(b) Patching. Patch a hole or tear which exceeds 3/4 inch in length or diameter as prescribed in TM 10-1670-201-23/TO 13C-1-41, using type III 7.25-ounce nylon duck cloth and the specifics in table 3-3. However, the damaged area must be accessible and there must be at least 1 1/4 inches of undamaged material remaining on all sides of the affected area.

(16) *Stowage flap edge reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A stowage flap edge reinforcement may be spliced an unlimited number of times as follows:

1 Cut a length of 1-inch-wide, type IV nylon webbing long enough to extend 2 inches beyond each side of the damaged area and sear the ends.



AV 107107

Figure 3–117. Deployment bag stowage flap edge reinforcement splicing details, 15-foot-diameter cargo extraction parachute.

2 Center the webbing length lengthwise over the damaged area, including the edge binding, and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, along the full length of the splice material, according to the details in figure 3-117. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(17) *Main strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A deployment bag main strap may be spliced an unlimited number of times as follows:

1 Cut a length of 1 23/32-inch-wide, type VIII nylon webbing long enough to extend 2 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(18) *Bag panels.*

(a) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41, and the specifics in table 3-3.

d. Replacement. Replace an unserviceable 15-foot-diameter cargo extraction parachute deployment bag with a serviceable item from stock.

3–38. The Extraction Line

a. Inspection. Inspect a 60-foot-long extraction line used with the 15-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 60-foot-long extraction line by cleaning the line material and associated components in accordance with TM 10-1670-201-23/TO13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 60-foot-long extraction line which requires the cutting of stitching, tacking, or an original part, insure that adjacent webbing material is not damaged during the cutting process.

(1) *Line webbing.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Connector link attaching loop buffer.*

(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread. Securing tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(b) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Replacement. Replace a damaged or missing connector link attaching loop buffer by fabricating as follows:

1 If applicable, remove the original buffer from the affected connector link attaching loop by cutting the tacking securing the buffer within the loop.

2 Cut a 3 1/4-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

3 Double the webbing length and aline the ends. Secure the alined ends by stitching two rows of stitching laterally across the webbing width at a point 1/4 inch back from the alined ends. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 Position the doubled webbing length in the original buffer location and secure the webbing buffer to the connector link attaching loop by handtacking at one point according to the details in figure 3-118, using the procedures in paragraph *(a)* above.

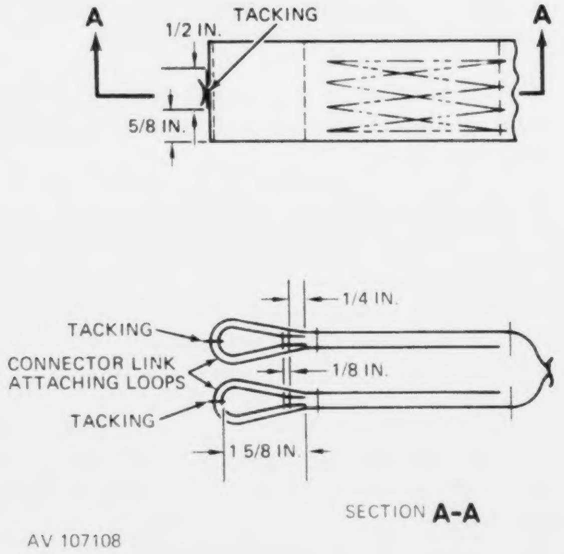


Figure 3–118. Extraction line connector link attaching loop buffer replacement details, 15-foot-diameter cargo extraction parachute.

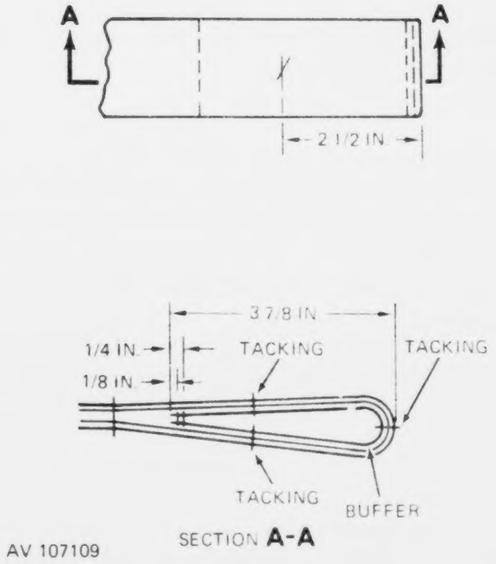


Figure 3–119. Extraction line load attaching loop buffer replacement details, 15-foot-diameter cargo extraction parachute.

(3) *Load attaching loop buffer.*

(a) Retacking. Replace broken or loose tacking as prescribed in paragraph (2)*(a)* above.

(b) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Replacement. Replace a damaged or missing load attaching loop buffer by fabricating as follows:

1 If applicable, remove the original buffer from the load attaching loop by cutting the tacking securing the buffer within the loop.

2 Cut a 7 3/4-inch length of 1 3/4-inch-wide, type X cotton webbing and wax the ends.

3 Double the webbing length and aline the ends. Secure the alined ends by stitching two rows of stitching, 1/8-inch apart, laterally across the webbing width according to the details in figure 3-119. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3

4 Position the doubled webbing length in the original buffer location and secure the webbing buffer to the load attaching loop by handtacking at three points as shown in figure 3-119, using one turn double, ticket No. 5 waxed cotton thread at each tacking point. Secure tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(4) *Release knife loop buffer.*

(a) Retacking. Replace broken or loose tacking as prescribed in paragraph (2)*(a)* above.

(b) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Replacement. Replace a damaged release knife loop buffer by fabricating as follows:

1 Remove the original buffer from the release knife loop by cutting the tacking securing the buffer to the loop, cutting the stitching securing the buffer ends together, and sliding the buffer webbing from around the rectangular slot on the release knife.

2 Cut a 3 3/4-inch length of 1 3/4-inch-wide, type X cotton webbing and wax the ends.

3 Pass one end of the webbing length to the inside of the original release knife loop, through the rectangular slot of the release knife, and aline the webbing ends.

4 Position the webbing ends within the loop and secure the webbing buffer to the loop webbing by handtacking at two points according to the details in figure 3-120, using one turn double, ticket No. 5 waxed cotton thread at each tacking point. Secure tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

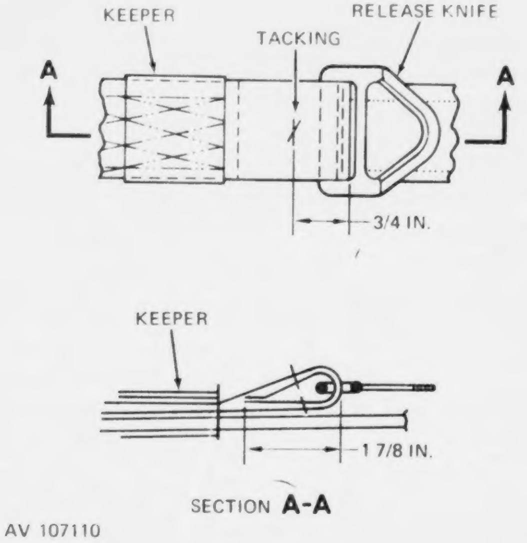


Figure 3–120. Extraction line release knife loop buffer replacement details, 15-foot-diameter cargo extraction parachute.

(5) *Release knife.* As required, resharpen a release knife using a metal file.

d. Replacement. Replace an unserviceable 60-foot-long extraction line with a serviceable item from stock.

3–39. The 9 1/2-Inch-Long Adapter Web

a. Inspection. Inspect a 9 1/2-inch-long adapter web used with the 15-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 9 1/2-inch-long adapter web by cleaning the web material in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Web body.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

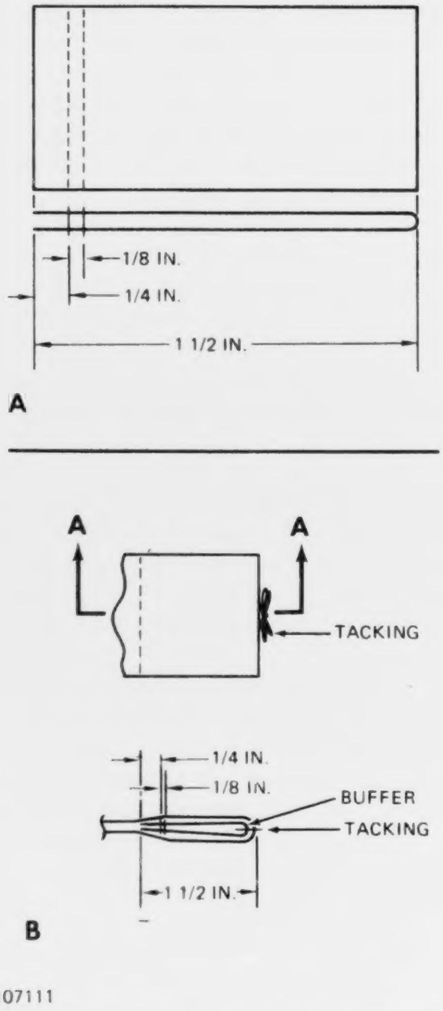
(2) *End loop buffer.*

(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread. Secure the tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(b) Replacement. Replace a damaged or missing end loop buffer by fabricating as follows:

1 If applicable, remove the original buffer from the adapter web end loop by cutting the tacking.

2 Cut a 3-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.



A. Construction details. *B. Installation details.*

Figure 3–121. End loop buffer replacement details, 9 1/2-inch-long adapter web.

3 Double the webbing length and aline the ends. Secure the alined ends together by stitching two rows of stitching laterally across the webbing width at a point 1/4 inch back from the alined ends according to the details in A, figure 3-121. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 Position the stitched webbing in the original buffer location and secure the webbing buffer to the adapter web end loop by handtacking at one point (B) using the procedures in paragraph *(a)* above.

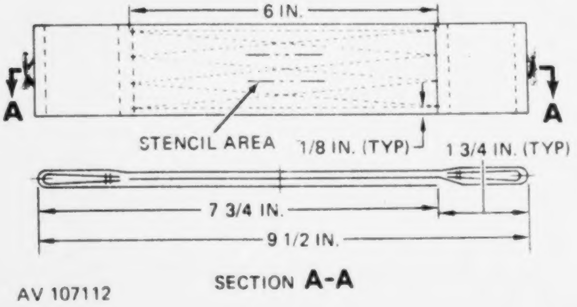


Figure 3–122. Replacement details, 9 1/2-inch-long adapter web.

d. Replacement.

(1) *Adapter web.* Replace a damaged 9 1/2-inch-long adapter web by fabricating as follows:

(a) Cut a 25-inch length of 1 23/32-inch-wide, type X nylon webbing and sear the ends.

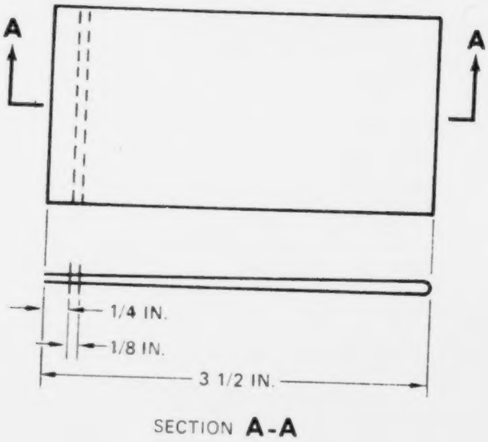
(b) Make a 7 3/4-inch-long foldback on each end of the webbing length allowing the ends to overlap by 6 inches. Secure the folded webbing by stitching a 6-inch-long four-point-WW-stitch formation according to the details in figure 3-122. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Fabricate and install a buffer in each of the end loops formed on the adapter web using the procedures in paragraph *c.*(2)*(b)* above.

(d) Stencil the adapter web part number "11-1-2069" in 1/2-inch lettering at the center of the web using stenciling procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *The 3 1/2-inch-long buffer.* Replace a damaged or missing 3 1/2-inch-long buffer used in conjunction with the 9 1/2-inch-long adapter web by fabricating as follows:

(a) Cut a 7-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.



AV 107113

Figure 3–123. Replacement details for the 3 1/2-inch-long buffer, 9 1/2-inch-long adapter web.

(b) Double the webbing length and aline the ends. Secure the alined ends together by stitching two rows of stitching, 1/8 inch apart, laterally across the webbing width at a point 1/4 inch back from the alined ends (fig. 3-123). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

3–40. The 148- and 260-Inch-Long Reefing Lines

a. Inspection. Inspect a 148- or 260-inch reefing line used with the 15-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the specifics in table 3-1.

b. Service. Service a 148- or 260-inch-long reefing line by cleaning the line material and, if applicable, buffing or filing line grommets, as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Line body.*

(a) Restencil. As required, restencil reefing line length characters and identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(2) *Retaining loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged retaining loop by fabricating using the following procedures, as applicable.

NOTE

> The 148-inch-long reefing line has 14 single loops and one double loop installed along the line length. The 260-inch-long reefing line has 16 single loops installed along the line length.

1 Single retaining loop.

(a) Remove the original retaining loop from the reefing line by cutting the stitching securing the loop to the line.

(b) Cut either an 11 1/2-inch length (148-inch-long reefing line) or a 13 1/2-inch length (260-inch-long reefing line) of type III nylon cord and sear the ends.

(c) Double the cord length, aline the ends, and position the folded cord in the original retaining loop location.

(d) Beginning at a point 1 3/4 inches back from the cord folded end, secure the alined ends to the reefing line by stitching a 4 1/2-inch-long (148-inch-long reefing line) or a 5-inch-long (260-inch-long reefing line) row of 3/16-inch-wide double-throw zigzag stitching according to original construction details. Overstitch the alined cord ends by 1/4 inch. Stitching will be made using the specifics in table 3-3.

2 *Double retaining loop.*

(a) Cut a 21 1/2-inch length of type III nylon cord and sear the ends.

(b) Make a 5 3/8-inch-long foldback on each end of the cord length, joining the cord ends at the center of the folded cord length.

(c) Using a suitable marking aid, mark the folded cord at a point 1 3/4 inches from each folded end and position the folded cord in the original double loop location at the center of the 148-inch-long reefing line.

(d) Secure the folded cord to the reefing line by stitching a 3/16-inch-wide by 7 1/4-inch-long row of double-throw zigzag stitching between the two 1 3/4-inch marks made in (c) above according to original construction details. Stitching will be made using the specifics in table 3-3.

(3) *Grommet.*

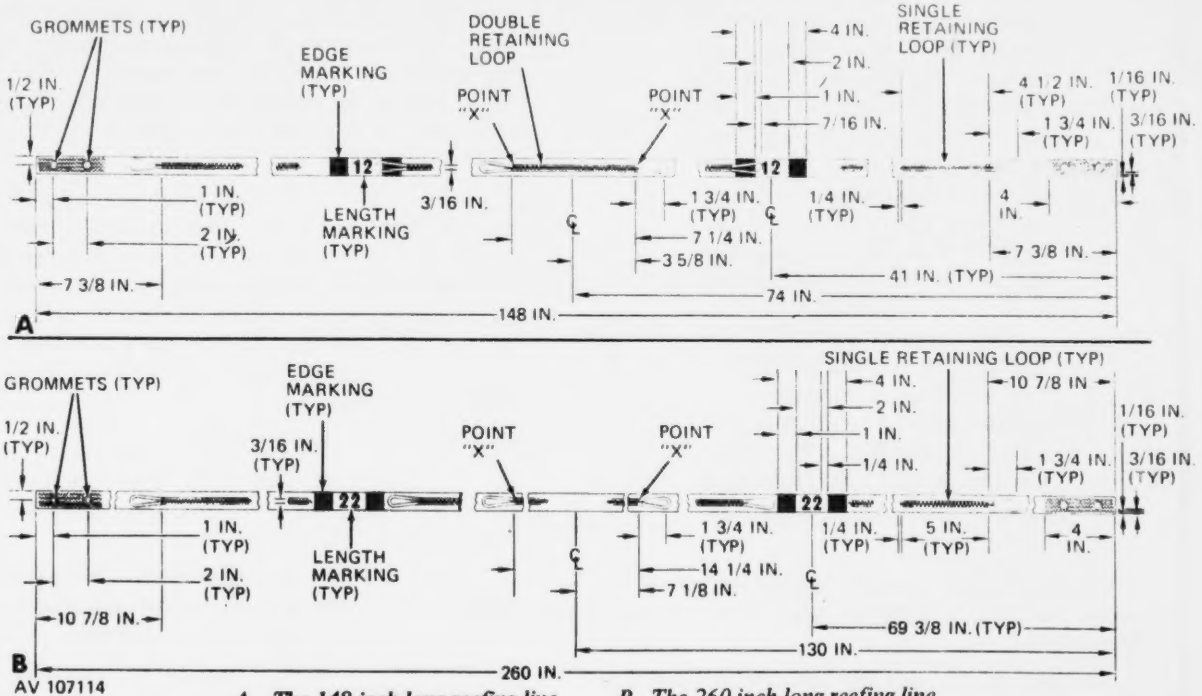
(a) Reseating. Reseat a loose grommet using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Replacement. Replace an unserviceable size 0 metallic grommet with a serviceable item from stock. Install a serviceable grommet on a reefing line using the procedures in TM 10-1670-201-23/TO 13C-1-41.

d. Replacement. Replace a damaged 148- or 260-inch-long reefing line by fabricating as follows:

(1) As applicable, cut a 148- or 260-inch length of 1-inch-wide tubular nylon webbing and sear the ends.

(2) Stitch each end of the applicable line length with four 4-inch-long equally spaced rows of 3/16-inch-wide double-throw zigzag stitching according to the details in figure 3-124, using the specifics in table 3-3.


GROMMETS (TYP)
1/2 IN. (TYP)
EDGE MARKING (TYP)
DOUBLE RETAINING LOOP
POINT "X"
POINT "X"
4 IN.
2 IN.
1 IN.
7/16 IN.
SINGLE RETAINING LOOP (TYP)
4 1/2 IN. (TYP)
1/16 IN. (TYP)
1 3/4 IN. (TYP)
3/16 IN. (TYP)
12
12
1 IN. (TYP)
2 IN. (TYP)
LENGTH MARKING (TYP)
3/16 IN.
℄
1 3/4 IN. (TYP)
℄
1/4 IN. (TYP)
4 IN.
7 1/4 IN.
3 5/8 IN.
7 3/8 IN.
7 3/8 IN.
41 IN. (TYP)
74 IN.
A
148 IN.
SINGLE RETAINING LOOP (TYP)
GROMMETS (TYP)
EDGE MARKING (TYP)
4 IN.
10 7/8 IN
2 IN.
1/16 IN. (TYP)
1/2 IN. (TYP)
3/16 IN. (TYP)
POINT "X"
POINT "X"
1 IN.
1/4 IN.
1 3/4 IN. (TYP)
3/16 IN. (TYP)
22
22
1 IN. (TYP)
1 3/4 IN. (TYP)
1/4 IN. (TYP)
5 IN. (TYP)
4 IN.
2 IN. (TYP)
LENGTH MARKING (TYP)
℄
14 1/4 IN.
7 1/8 IN.
℄
10 7/8 IN.
69 3/8 IN. (TYP)
130 IN.
B
260 IN.
AV 107114

A. The 148-inch-long reefing line. *B. The 260-inch-long reefing line.*

Figure 3–124. Reefing line construction details, 15-foot-diameter cargo extraction parachute.

(3) At points 1 and 3 inches from each end of the webbing length, install a size 0 metallic grommet using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(4) Using the procedures in paragraph *c.(2)(b)* above and the specifics in table 3-3, install one double retaining loop and 14 single retaining loops on the 148-inch-long reefing line (A), and 16 single retaining loops on the 260-inch-long reefing line (B). Each single loop will be equally spaced on each half of the reefing line working from point X shown in figure 3-124.

(5) Stencil the applicable length markings on each half of the reefing line length using the details in figure 3-124 and the stenciling procedures in TM 10-1670-201-23/TO 13C-1-41. Stenciled characters will be 1-inch-high. Also stencil the applicable reefing line part number in 1/2-inch-high characters on the reverse side at the center of the reefing line length.

3-40A. The 36-Inch-Long Adapter Web.

NOTE

When a 60-foot 2-ply type X extraction line is damaged beyond repair or a type XXVI extraction line is required, the type XXVI 36-inch adapter web will be installed on the 15-foot extraction parachute. The complete parachute assembly will then consist of a deployment bag, the canopy, and the adapter web. At this time the assembly will be reidentified to NSN 1670-01-063-3715 with a part number of 11-1-2583. The type X 60-foot extraction line will then no longer be a component of the 15-foot extraction parachute. The NSN for the type XXVI 36-inch adapter web is 1670-00-048-8215.

a Inspection. Inspect the 36-inch-long extraction parachute adapter web in accordance with table 3-1.

b Service. Service the 36-inch-long adapter web by cleaning the web material as prescribed in TM 10-1670-201-23.

c. Repair.

CAUTION

When performing a repair on the 36-inch-long adapter web which requires the cutting of stitching or tacking, insure that adjacent webbing material is not damaged during the cutting process.

(1) Long Buffer.

(a) Retacking. Replace broken or loose tacking securing the long buffer in the 5-inch- long single attaching loop by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread at each tacking point. Secure the tacking with a square knot and locking knot, trim ends to 1/2 inch.

(b) Replacement. Replace a damaged or missing long buffer in the 5-inch-long single attaching loop by fabricating as follows:

1. If applicable, remove the original long buffer by cutting the tacking securing the buffer within the loop.

2. Cut a 7-3/4 inch length of 1-3/4 inch-wide, type X cotton webbing and wax the ends.

3. Double the webbing length and align the ends. Secure the aligned ends by stitching two rows of stitching across the webbing width according to the details in figure 3-124A, using the specifics in table 3-3. Stitching will be made in accordance with TM 10-1670-201-23.

4. Position the formed buffer in the original long buffer location and secure the buffer to the attaching loop webbing by hand tacking at three points using one turn double, ticket No. 5 waxed cotton thread at each point. Secure the tacking ends at each tacking point with a square knot and locking knot and trim ends to 1/2-inch.

(2) Short Buffer.

(a) Retacking. Retack a short buffer in a 2-inch-long attaching loop as prescribed in paragraph *(1)(a)* above.

(b) Replacement. Replace a damaged or missing short buffer in a 2-inch-long attaching loop by fabricating as follows:

1. If applicable, remove the original short buffer by cutting the tacking securing the buffer within the loop.

2. Cut a 3-1/4-inch length of 1-3/4-inch wide, type VIII cotton webbing and wax the ends.

3. Double the webbing length and align the ends. Secure the aligned ends by stitching as prescribed in paragraph *(1)(b)3.* above.

4. Position the formed buffer in the original short buffer location and secure the buffer to the attaching loop by hand tacking at one point (fig. 3-124B), using one turn double ticket No. 5 waxed cotton thread. Secure the tacking ends with a square knot and locking knot and trim ends to 1/2-inch.

(3) Webbing Length - Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3.

d. Replacement. Replace an unserviceable 36-inch-long extraction parachute adapter web with a serviceable item from stock.

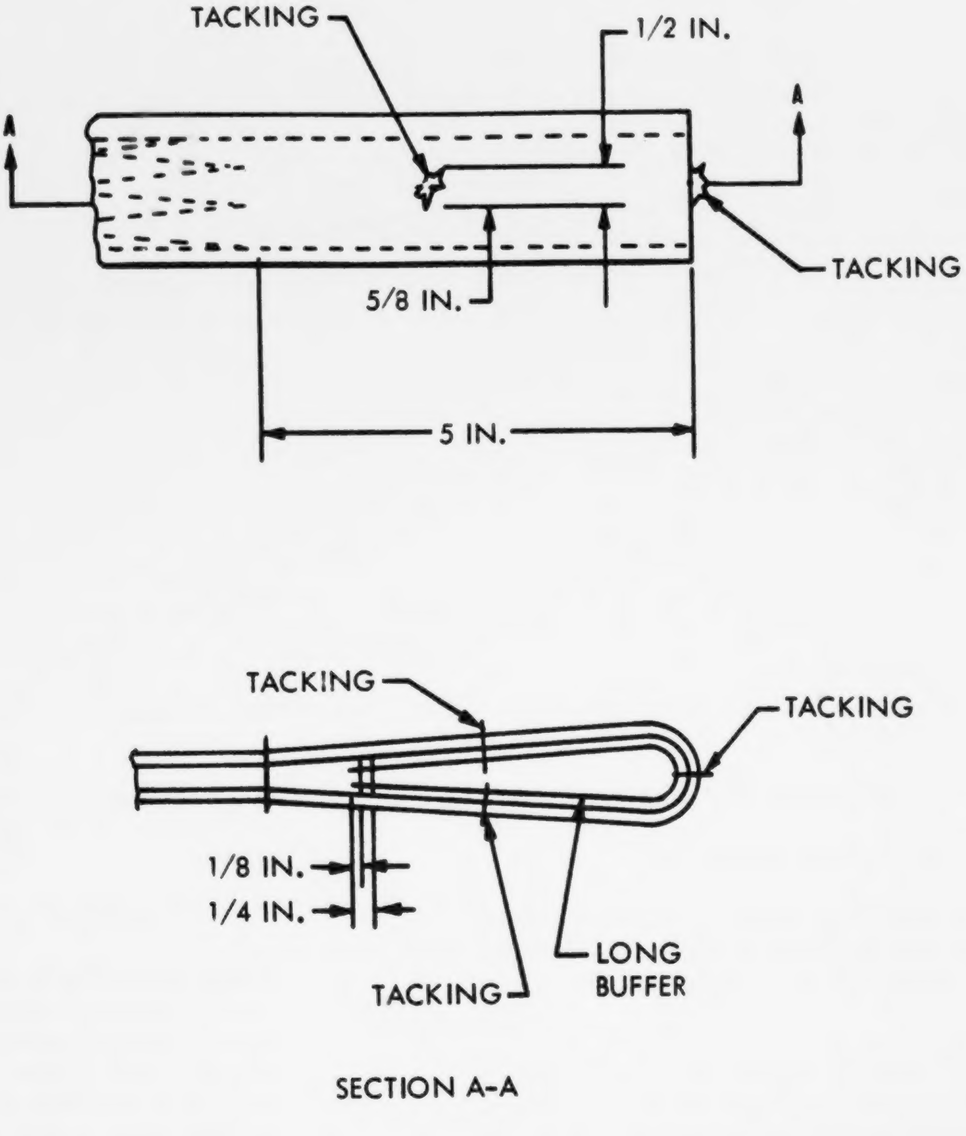


Figure 3-124A. The 15-Foot Extension Parachute Adapter Web, Long Buffer Installation

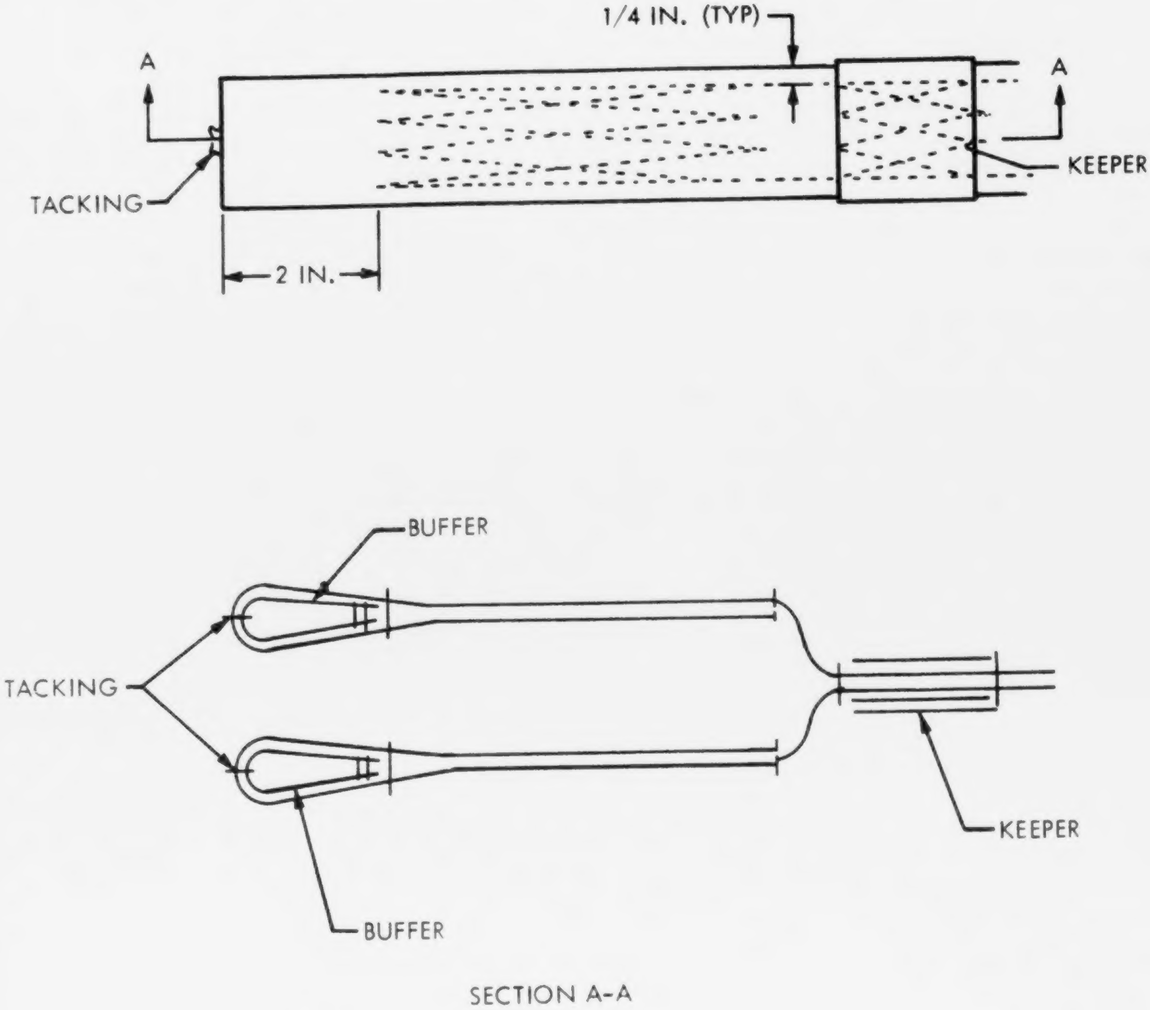


Figure 3-124B. The 15-Foot Extension Parachute Adapter Web, Short Buffer Installation

Section XII. THE 22-FOOT-DIAMETER CARGO EXTRACTION PARACHUTE

3–41. The Parachute Canopy

a. Inspection. Inspect a 22-foot-diameter cargo extraction parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 22-foot-diameter cargo extraction parachute canopy by cleaning and drying the canopy and associated canopy components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 22-foot-diameter cargo extraction parachute canopy which requires the cutting of stitching or an original part, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Gore panel.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(c) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter, using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3. Each gore panel may be darned a maximum of three times.

(d) Patching Patch a hole or tear that exceeds 3/4 inch in length or diameter according to procedures in TM 10-1670-201-23/TO 13C-1-41, using type II 3.5-ounce nylon parachute cloth and the specifics in table 3-3. Each gore panel is limited to two patches.

(e) Replacement. Replace a gore panel which is damaged beyond repair by fabricating according to the gore section replacement procedures in TM 10-1670-201-23/TO 13C-1-41, using type II 3.5-ounce nylon parachute cloth and the specifics in table 3-3.

(2) *Panel edge reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A panel edge reinforcement may be spliced one time as follows:

1 Cut a length of 1/2-inch-wide, type III nylon tape long enough to extend 6 inches beyond each side of the damaged area and sear the ends.

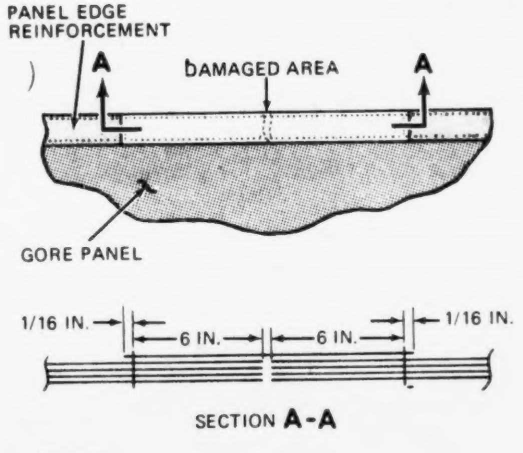


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Figure 3–125. Panel edge reinforcement splicing details, 22-foot-diameter cargo extraction parachute.

2 Center the tape length over the damaged area and secure the splice by stitching a box-stitch formation, 1/16 inch in from each edge, the full length of the splice material according to the details in figure 3-125. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(3) *Bridle centering line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bridle centering line by fabricating as follows:

1 Remove the original bridle centering line by cutting the stitching securing each end of the line to an attaching vent line.

2 Cut an 8-inch length of type V coreless nylon cord and sear the ends.

3 Using a suitable marking aid, mark the cord length at the center and at a point 1 1/2 inches on each side of the center mark.

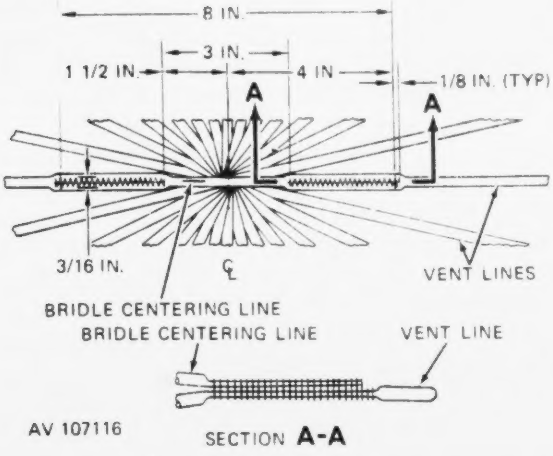

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Figure 3–126. Bridle centering line replacement details, 22-foot-diameter cargo extraction parachute.

4 Position the cord length in the original centering line location and temporarily handtack the cord ends to the attaching vent line, using temporary tacking procedures outlined in TM 10-1670-201-23/TO 13C-1-41. Insure all vent lines pass freely through the loop formed at the center of the tacked line.

5 Secure each end of the bridle centering line to the attaching vent line by stitching a 3/16-inch-wide by 4 1/8-inch-long row of double-throw zigzag stitching from the 1 1/2-inch mark made in *3* above to a point 1/8 inch beyond the cord end (fig. 3-126). Stitching will be made using the specifics in table 3-3. Remove tacking made in *4* above.

(4) *Suspension line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged suspension line by fabricating according to procedures in TM 10-1670-201-23/TO 13C-1-41, using type V coreless nylon cord and the specifics in table 3-3.

(5) *Vent line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged vent line by fabricating according to procedures in TM 10-1670-201-23/TO 13C-1-41, using type V coreless nylon cord and the specifics in table 3-3.

(6) *Parachute connector link assembly.*

(a) Repair. Repair a parachute connector link assembly as prescribed in TM 10-1670-201-23/TO 13C-1-41. As required, tighten loose screws using a suitable sized flat-tip (common-head) screwdriver.

(b) Replacement. Replace an unserviceable parachute connector link assembly with a serviceable item from stock.

(7) *Attachment loop (bridle loop).*

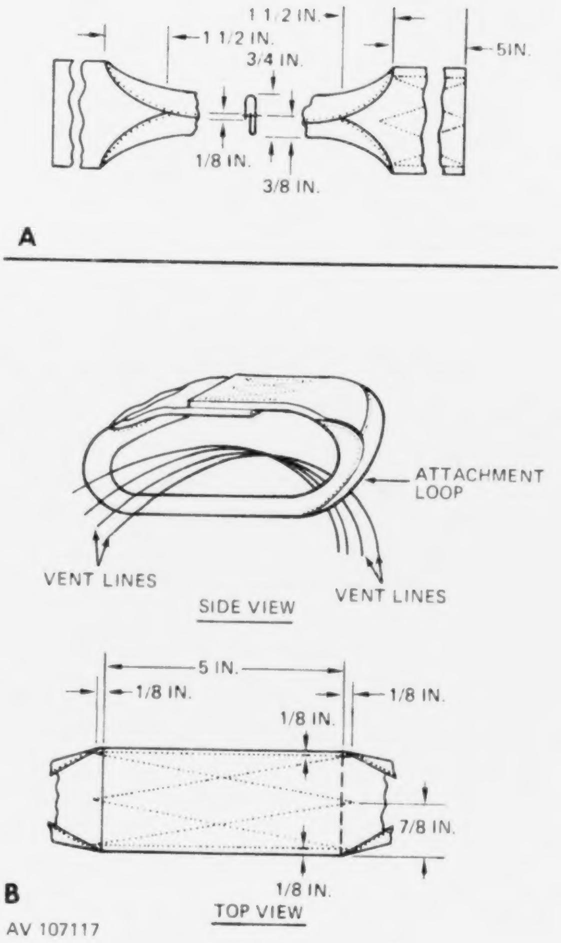
(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged attachment loop (bridle loop) by fabricating as follows:

1 Cut a 20-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

2 Using a suitable marking aid, mark the webbing length at a point 5 inches from each end.

3 Between the two 5-inch marks made in *2* above, roll 1/2 inch of each webbing edge in to the center of the webbing width and allow the webbing edges to overlap. Secure the overlapped webbing edges to the webbing length by making a single row of stitching along the center of the webbing overlap and 1 1/2 inches along each rolled edge beyond the point of edge overlap (A, fig. 2-127). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.



A. Construction details.
B. Installation details.

Figure 3–127. Attachment loop replacement details, 22-foot-diameter cargo extraction parachute.

4 Pass one webbing end through the vent lines and join the webbing ends together above the vent lines with a 5-inch-long overlap (B). Insure the webbing length encircles all vent lines.

5 Secure the overlapped webbing ends together by stitching a 5-inch-long three-point-WW-stitch formation, with a 1/8-inch overstitch on each webbing end. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Remove the original attachment loop by cutting the loop webbing.

(8) *Suspension line attaching loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged suspension line attaching loop by fabricating as follows:

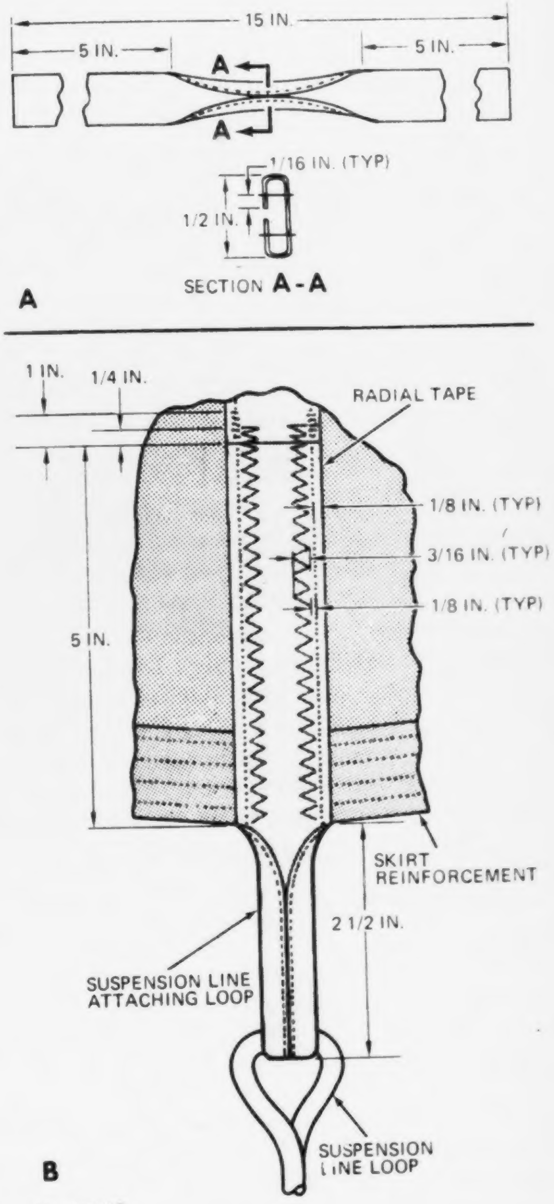
1 Cut two 15-inch lengths of 1-inch-wide, type IV nylon webbing and sear the ends.

2 Place one webbing length over the second webbing length and aline the ends. Temporarily secure the webbing lengths together at both ends by handtacking using temporary tacking procedures in TM 10-1670-201-23/TO 13C-1-41.

3 Using a suitable marking aid, mark the joined webbing lengths at a point 5 inches from each end.

4 Remove the original suspension line attaching loop by cutting the loop material at a point immediately below the skirt reinforcement (lower lateral band). If applicable, slide the suspension line upper end loop off the cut attaching loop webbing.

5 Between the two marks made in *3* above, roll 1/4 inch of each webbing edge in toward the center of the webbing width. Secure each rolled edge by making a 5-inch-long row of stitching according to the details in A, figure 3-128. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.



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A. Construction details.

B. Installation details.

Figure 3–128. Suspension line attaching loop replacement details, 22-foot-diameter cargo extraction parachute.

6 Position one end of the webbing over the radial tape on the canopy outside with the rolled edges facing up and aline the 5-inch mark with the lower edge of the skirt reinforcement (lower lateral band). Temporarily secure the webbing end to the radial tape by handtacking according to the temporary tacking procedures in TM 10-1670-201-23/TO 13C-1-41.

7 Pass the webbing free end through the loop on the suspension line upper end and center the suspension line loop in the rolled edge portion of the webbing length.

8 Pass the webbing free end to the canopy inside and position the end over the radial tape with the 5-inch mark alined with the lower edge of the skirt reinforcement (lower lateral band). Temporarily secure the webbing end to the radial tape on the canopy inside by handtacking according to the temporary tacking procedures in TM 10-1670-201-23/TO 13C-1-41. Remove webbing end tacking made in *2* above.

9 Secure the webbing ends to the radial tape by stitching a row of stitching, 1/8 inch in, along each edge from the lower edge of the skirt reinforcement (lower lateral band) to a point 1 inch beyond the webbing ends (B). Further stitch two 3/16-inch-wide rows of double-throw zigzag stitching, 1/8 inch apart, from the lower edge of the skirt reinforcement (lower lateral band) to a point 1/4 inch beyond the webbing ends. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Remove the tacking made in *6* and *8* above.

(9) *Pocket band.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged pocket band by fabricating according to procedures in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3 and a 7 5/16-inch length of 1-inch-wide, type IV nylon webbing.

(10) *Suspension line spacer.* Replace a damaged or missing suspension line spacer on a connector link between suspension lines 7 – 8 or 21 – 22 by fabricating as follows:

(a) If applicable, remove the original suspension line spacer from between the suspension lines by cutting the spacer material.

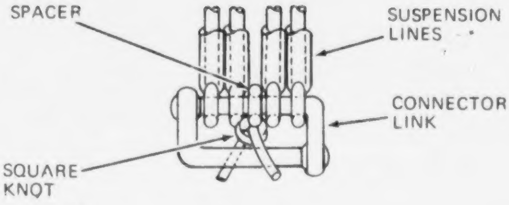


Figure 3–129. Suspension line spacer installation details, 22-foot-diameter cargo extraction parachute.

(b) Cut a 7-inch length of type V coreless nylon cord and sear the ends.

(c) Pass the cord length around the applicable connector link bar in the original spacer location and secure the cord tight against the bar with a square knot (fig. 3-129).

(11) *Vent reinforcement (upper lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vent reinforcement (upper lateral band) is limited to one splice which will be performed according to upper lateral band splicing procedures in TM 10-1670-201-23/TO 13C-1-41, using 1-inch-wide tubular nylon webbing and the specifics in table 3-3.

(12) *Skirt reinforcement (lower lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A skirt reinforcement (lower lateral band) is limited to one splice which will be made as follows:

1 Place the canopy on a repair table with the damaged area facing up.

2 If the skirt reinforcement (lower lateral band) is damaged between two radial tapes, remove the pocket bands from each side of the damaged area by cutting the band material as close as possible to the single-X-box-stitch formation. Allow the stitched band ends to remain attached to the skirt reinforcement (lower lateral band). Should the skirt reinforcement (lower lateral band) damage extend into a radial tape, remove the pocket band at the damaged radial tape and the pocket bands located on each side of the affected radial tape using the procedure previously prescribed.

3 To splice a skirt reinforcement (lower lateral band) damaged between two radial tapes, cut a length of 1-inch-wide tubular nylon webbing long enough to extend 4 inches beyond the radial tapes on each side of the damaged area (A, fig. 3-130) and sear the ends. If the damage extends into a radial tape, cut a length of the cited splice material long enough to extend 4 inches beyond the radial tapes located on each side of the damaged radial tape (B) and sear the ends.

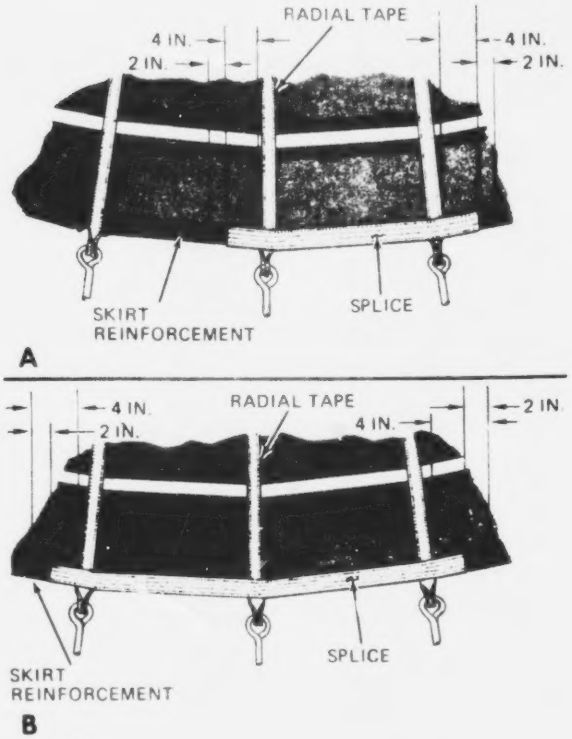
4 Center the splice material over the damaged area and secure the splice by stitching four rows of stitching lengthwise along the splice to a point 2 inches beyond each end of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Replace the pocket bands removed in *2* above as prescribed in paragraph (9) above.

(13) *Radial tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A radial tape may be spliced one time provided the damaged area does not exceed 12 inches in length. Splicing will be performed as follows:



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A. Splicing damaged area between radial tapes.

B. Splicing damaged area extending into a radial tape.

Figure 3–130. Skirt reinforcement splicing details, 22-foot-diameter cargo extraction parachute.

NOTE

> If any portion of a radial tape is damaged on the inside and the outside of the canopy, the splicing effort will be accomplished on both the inside and the outside radial tape webbing.

1 Cut a length of 1-inch-wide, type IV nylon webbing long enough to extend 12 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching according to the details in figure 3-131. Overstitch each end by 2 inches. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

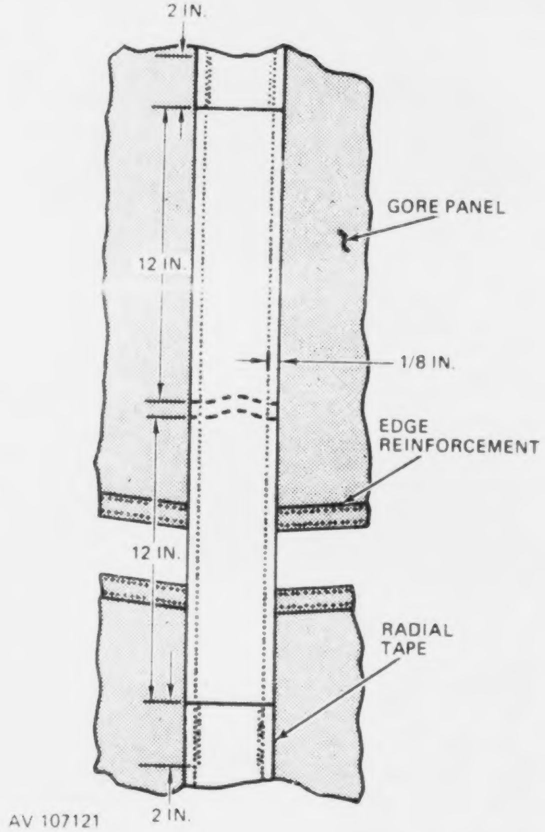

Figure 3–131. Radial tape splicing details, 22-foot-diameter cargo extraction parachute.

3. When radial webbing stitching has failed and section separation from the radial webbing has occurred at the leading or trailing edge of the ringslots, the repair will be made using the procedures in paragraph 3-36*c*(11)*(c)*1. and 2.

d. Replacement. Replace an unserviceable 22-foot-diameter cargo extraction parachute canopy only as authorized by Appendix C.

3–42. The Deployment Bag.

a. Inspection. Inspect a deployment bag used with the 22-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 22-foot-diameter cargo extraction parachute deployment bag by cleaning the bag material and associated components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 22-foot-diameter cargo extraction parachute deployment bag which requires the cutting of stitching or an original part, insure that adjacent bag material is not damaged during the cutting process.

(1) *Grommet.*

(a) Reseating. Reseat a loose grommet using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Replacement. Replace an unserviceable size 0 metallic grommet with a serviceable item from stock. Install a serviceable grommet using the procedures in TM 10-1670-23/TO 13C-1-41.

(2) *Retainer band keeper.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged retainer keeper by fabricating as follows:

1 Remove the original retainer band keeper by cutting the stitching securing the keeper webbing to the suspension line stowage flap and the inside of the bag bottom panel.

2 Cut a 25 1/2-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

3 Make a 1-inch-long turnunder on one end of the webbing length and position the webbing in the original keeper location with the turnunder facing down on the suspension line stowage flap.

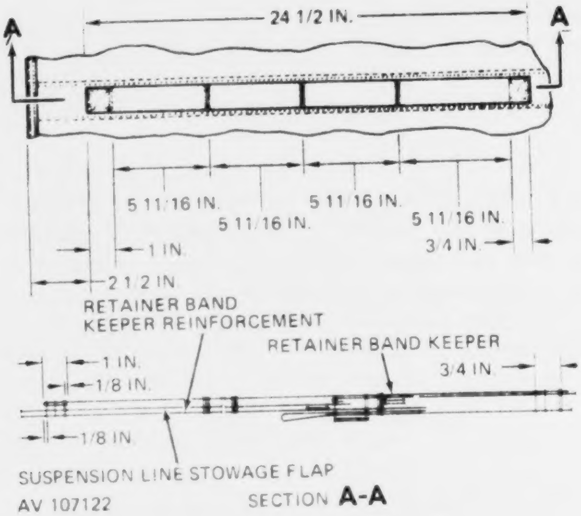

Figure 3-132. Deployment bag retainer band keeper replacement details, 22-foot-diameter cargo extraction parachute.

4 Secure each end of the webbing length to the deployment bag by stitching a 3/4-inch-long single-X-box-switch formation, with one double end, according to the details in figure 3-132. Further make four lateral rows of stitching across the webbing width at three points to form four equal sized loops in the webbing length. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(3) *V-ring and V-ring keeper.*

(a) Restitching. Restitch broken or loose stitching according to original construction detail and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable V-ring with a serviceable item from stock and replace a V-ring keeper by fabricating as follows:

1 Remove the original V-ring by cutting the V-ring keeper material as close as possible to the V-ring. Trim the cut ends of the original keeper to allow the webbing ends to lie flat.

2 Cut a 6-inch length of 23/32-inch-wide, type VIII nylon webbing a sear the ends.

3 Pass one end of t. webbing length through the rectangular slot in serviceable V-ring and center the webbing in tl slot.

4 Make a 1 1/2-inch-long turnunder on each end of the webbing length and position the webbing and the V-ring in the original V-ring location. Aline the webbing folded edges with the outside edges of the original V-ring keeper.

5 Secure each folded end of the webbing length to the deployment bag by stitching a 1 1/8-inch-wide three-point-WW-stitch formation laterally across the webbing width according to original construction details and figure 3-109. Overstitch each edge of the webbing by 1/4 inch. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(4) *Bent V-ring and V-ring keeper.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable bent V-ring with a serviceable item from stock and replace a bent V-ring keeper by fabricating as follows:

1 Cut the center of the original bent V-ring keeper material as close as possible to the original bent V-ring and also cut the center of one side support web to permit the original bent V-ring to be removed from the deployment bag. Trim the cut ends of the original bent V-ring keeper and the side support web to allow the webbing ends to lie flat.

2 Cut two 5 1/2-inch lengths of 1 23/32-inch-wide type VIII nylon webbing and sear the ends.

3 Insert one end of a serviceable bent V-ring under the side support web which has not been cut and position the opposite end over the previously cut side support web.

4 Make a 1 1/4-inch-long turnunder on each end of one 5 1/2-inch webbing length. Position the folded webbing over the free bent V-ring end and the original cut side support web with the turnunders facing down. Aline the webbing folded ends with the original support web ends.

5 Secure each end of the folded webbing to the deployment bag by stitching a 1-inch-wide three-point-WW-stitch formation laterally across the webbing width according to the details in figure 3-133. Overstitch the webbing edges by one stitch at each point of the stitch formation. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

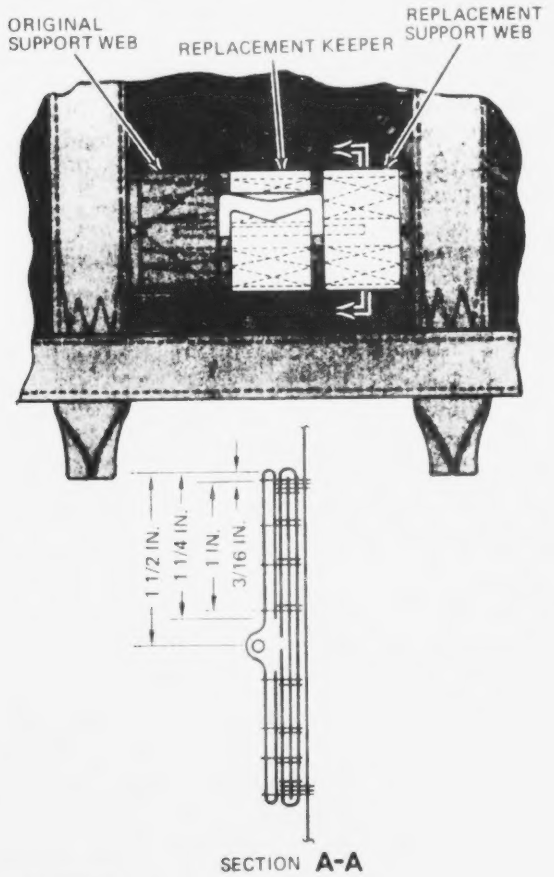

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Figure 3–133. Replacement details for deployment bag bent V-ring and V-ring keeper, 22-foot-diameter cargo extraction parachute.

6 Center the second 5 1/2-inch webbing length in the bent V-ring rectangular slot and make a 1 1/4-inch-long turnunder on each end. Aline the webbing folded ends with the original keeper ends. Secure the webbing ends by stitching using the procedures in *5* above and the specifics in table 3-3.

(5) *Bag retaining line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bag retaining line by fabricating as follows:

1 Remove the original bag retaining line by cutting the line at the retaining line attaching loop on the bag inside.

CAUTION

Do not cut or break the threads in the type IV coreless nylon cord casing while fabricating a bag retaining line.

2 Cut a 39-inch length of type IV coreless nylon cord and taper-cut 1/2 inch of each end.

3 Using a suitable marking aid, mark the cord length at points 4, 9, and 13 1/2 inches from one cord end.

4 Pass the marked cord end through the retaining line attaching loop on the bag inside and center the loop between the 4- and 9-inch marks on the cord.

5 Insert a suitable splicing aid into the cord casing at the 13 1/2-inch mark and work the splicing aid through the cord casing to the outside at the 9-inch mark.

6 Attach the tapered cord end nearest the 4-inch mark to the splicing aid and work the aid back through the cord casing until the 4- and 9-inch marks are alined.

7 Hold the alined marks together and work the splicing aid and the tapered cord end to the outside at the 13 1/2-inch mark.

8 Remove the tapered cord end from the splicing aid and while holding the alined 4- and 9-inch marks together, stretch the cord length to allow the tapered cord end to recede inside the cord casing.

9 Secure the formed line loop by stitching a 3/16-inch-wide by 2-inch-long row of double-throw zigzag stitching according to the details in figure 3-134, using the specifics in table 3-3.

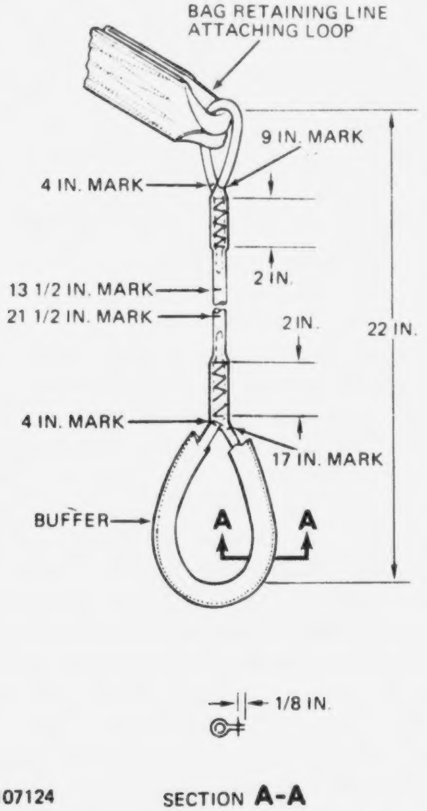


Figure 3–134. Deployment bag retaining line replacement details, 22-foot-diameter cargo extraction parachute.

10 Using a suitable marking aid, mark the cord running end at points 4, 17, and 21 1/2 inches from the tapered end.

11 Cut a 12-inch length of 1 1/2-inch-wide, type I cotton tape and wax the ends.

12 Fold the tape length in half lengthwise and aline the edges. Secure the alined edges together by stitching a 12-inch-long row of stitching, 1/8 inch in from the alined edges. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

13 Pass the cord length free end through the buffer made in *12* above, and locate the buffer between the 4- and 17-inch marks.

14 Insert a suitable splicing aid into the cord casing at the 21 1/2-inch mark and work the aid through the cord casing to the outside at the 17-inch mark.

15 Attach the cord tapered free end to the splicing aid and work the aid back through the cord casing until the 4- and 17-inch marks are alined.

16 Hold the alined marks together and work the splicing aid with the attached cord end to the outside at the 21 1/2-inch mark.

17 Remove the tapered cord end from the splicing aid and while holding the alined 4- and 17-inch marks together, stretch the cord length to allow the tapered cord end to recede into the cord casing.

18 Secure the second line loop by stitching using the procedures in 9 above and the specifics in table 3-3.

(6) *Pendulum line.* A pendulum line which is damaged or does not conform to the length criteria prescribed in this paragraph will be replaced by fabricating as follows:

(a) Remove the original pendulum line by cutting the loop formed in the line at the deployment bag pendulum line attaching loop.

CAUTION

Do not cut or break the threads in the type IV coreless nylon cord casing while fabricating a pendulum line.

(b) Cut an 85-inch length of type IV coreless nylon cord. Taper-cut 1/2 inch of one cord end and sear the opposite cord end.

(c) Using a suitable marking aid, mark the cord length at points 6 1/2 and 8 inches from the cord tapered end.

(d) Insert a suitable splicing aid into the cord casing at the 8-inch mark and work the aid through the cord to the outside at the 6 1/2-inch mark.

(e) Pass the tapered cord end through the deployment bag attaching loop and attach the tapered end to the splicing aid.

(f) Pull the splicing aid back into the cord casing at the 6 1/2-inch mark and work the aid, with cord end attached, back through the cord casing to the outside at the 8-inch mark (fig. 3-135).

(g) Remove the tapered cord end from the splicing aid. Sear the tapered end and make an overhand knot in the cord running end at a point 1 inch back from the seared tapered end. Stretch the cord loop to draw the knot against the cord casing.

(7) *Bridle loop strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

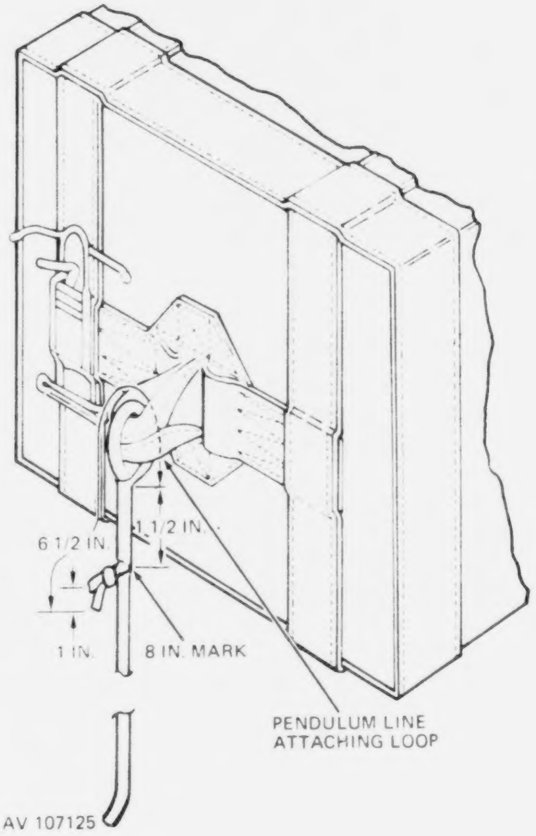


Figure 3–135. Pendulum line replacement details, 22-foot-diameter cargo extraction parachute.

(b) Replacement. Replace a damaged bridle loop strap, which includes damage to either the bag retaining line attaching loop or the pendulum line attaching loop, by fabricating as follows:

1 Remove the parachute inspection data pocket (log record pocket) from the main strap at the closed end of the bag by cutting the stitching securing the pocket to the strap. Retain the pocket for further use, if serviceable.

2 If the attached pendulum line and/or the bag retaining line are serviceable, remove the line(s) from the applicable attaching loop(s) by cutting the loop webbing. Retain the line(s) for further use, if serviceable.

3 Remove each of the bridle loop strap ends on the bag outside by cutting the webbing at a point adjacent to the end of the WW-stitch formation securing the webbing under the main strap.

4 Invert the deployment bag to locate the bag inside to the outside and cut each of the strap ends at a point adjacent to the end of the WW-stitch formation.

5 Remove the bridle loop strap from the deployment bag by pulling the pendulum line attaching loop (outer loop) and the strap outside ends back through the bag end slot.

6 Cut an 11-, 16 1/4-, and 20 3/4-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

7 Using a suitable marking aid, mark the 11-inch webbing length at points 3 1/4 and 8 1/4 inches from one end. Mark the 16 1/4-inch webbing length at points 4 7/8 inches from each end. Mark the 20 3/4-inch length at points 4 7/8 and 7 7/8 inches from each end.

8 Between the two marks made on the 11-inch webbing length, roll the webbing edges in toward the center of the webbing width and secure each of the rolled edges by stitching a 5-inch-long row of stitching according to the details in A, figure 3-136. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

9 Repeat the procedures in *8* above for the 5-inch-long area between the two 7 7/8-inch marks on the 20 3/4-inch webbing length.

10 Double the 11-inch webbing length and aline the 3 1/4- and 8 1/4-inch marks to allow one webbing end to overlap the opposite end by 1/2 inch.

11 Double the 16 1/4-inch webbing length and fold back each end at the 4 7/8-inch mark.

12 Insert the ends of the folded 11-inch webbing length between the ends of the folded 16 1/4-inch webbing (B). Aline the marks on the folded 11-inch webbing length with the 4 7/8-inch marks on the 16 1/4-inch webbing length.

13 Double the 20 3/4-inch webbing length and position the folded webbing ends as shown in figure 3-136. Secure the assembled webbing lengths together by stitching a 3-inch-long, four-point-WW-stitch formation (C) using the specifics in table 3-3. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

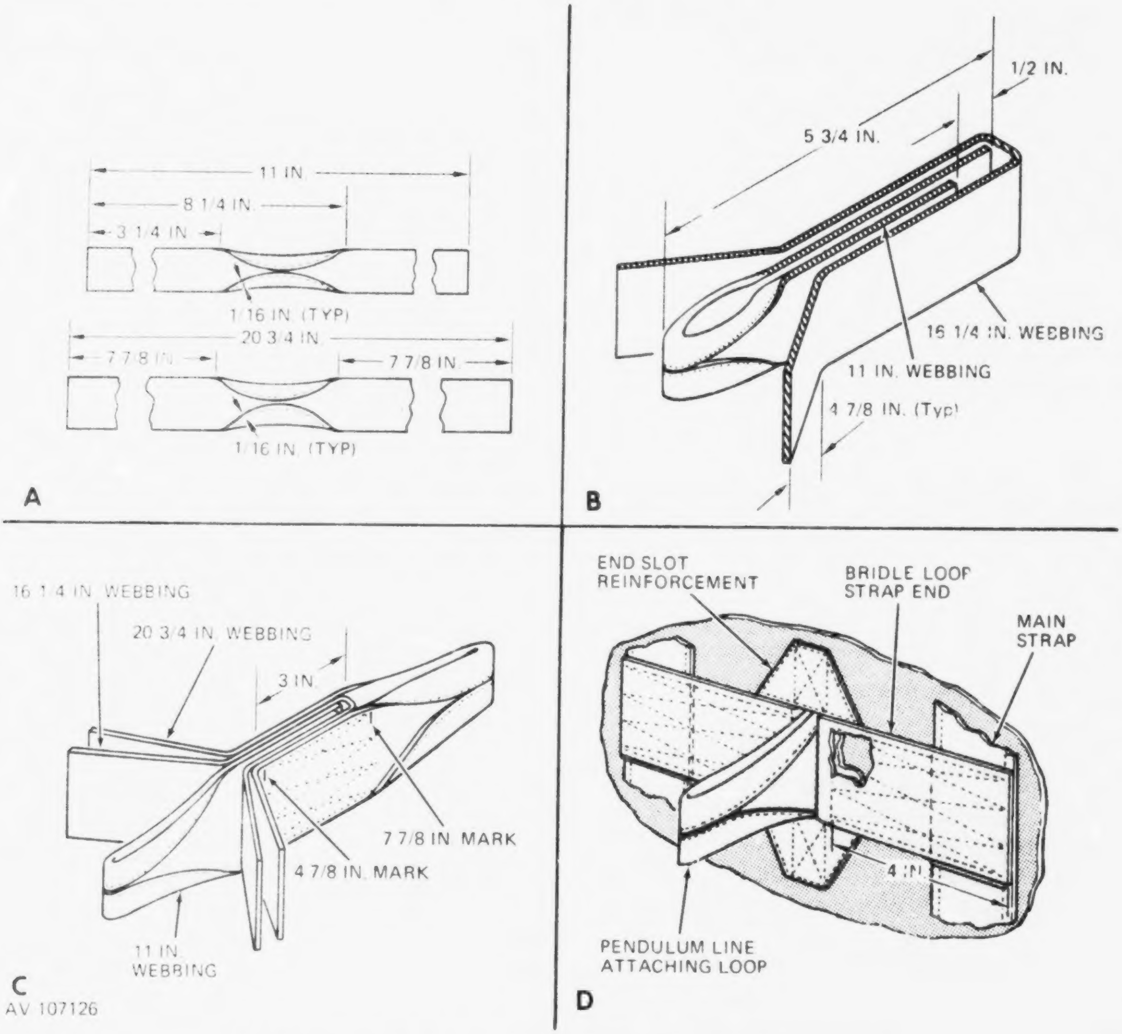
14 Pass the pendulum line attaching loop (outer loop) and the 4 7/8-inch-long ends of the 16 1/4-inch-long webbing through the deployment bag end slot. Reinvert the bag to locate the bag main straps on the outside.

15 Position each of the 4 7/8-inch-long webbing ends extending from the bag end slot over the adjacent original bridle strap loop end and main strap. Aline each webbing edge with the main strap outer edge.

16 Aline the 4 7/8-inch-long webbing ends located on the bag inside with the outside webbing ends. Secure each side of the bridle loop strap to the deployment bag by stitching a 4-inch-long four-point-WW-stitch formation according to the details in D, figure 3-136, using the specifics in table 3-3. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

17 Attach a serviceable pendulum line to the strap outer loop using the procedures in paragraph (6) above. Also, attach a serviceable bag retaining line to the strap inner loop as prescribed in paragraph (5) above.

18 Install a serviceable parachute inspection data pocket (log record pocket)


11 IN.
8 1/4 IN.
3 1/4 IN.
1/16 IN. (TYP)
20 3/4 IN.
7 7/8 IN.
7 7/8 IN.
1/16 IN. (TYP)
A
1/2 IN.
5 3/4 IN.
16 1/4 IN. WEBBING
11 IN. WEBBING
4 7/8 IN. (Typ)
B
16 1/4 IN. WEBBING
20 3/4 IN. WEBBING
3 IN.
7 7/8 IN. MARK
4 7/8 IN. MARK
11 IN. WEBBING
C
AV 107126
END SLOT REINFORCEMENT
BRIDLE LOOP STRAP END
MAIN STRAP
4 IN.
PENDULUM LINE ATTACHING LOOP
D

A. Construction details for the 11- and 20 3/4-inch webbing lengths.
B. The 11- and 16 1/4-inch webbing assembly details.
C. Bridle loop strap webbing assembly completed.
D. Installation details.

Figure 3-136. Deployment bag bridle loop strap replacement details, 22-foot-diameter cargo extraction parachute.

in the original pocket location by stitching according to original construction details, using the specifics in table 3-3.

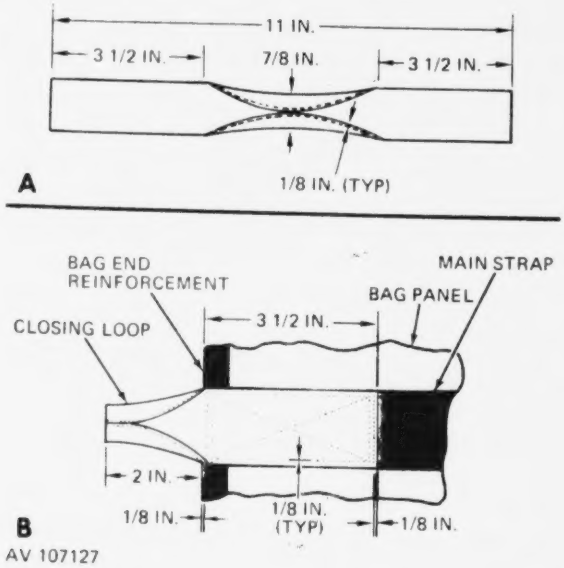
(8) *Bag closing loop (top and bottom).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bag closing loop by fabricating as follows:

1 Remove the original closing loop by cutting the loop webbing flush along the outside edge of the bag end reinforcement.

2 Cut an 11-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.



A. Construction details.
B. Installation details.

Figure 3–137. Deployment bag closing loop replacement details, 22-foot-diameter cargo extraction parachute.

3 Using a suitable marking aid, mark the webbing length at a point 3 1/2 inches from each end.

4 Roll the webbing edges in to the center of the webbing width between the two marks made in *3* above and secure each rolled edge by stitching a 4-inch-long row of stitching according to the details in A, figure 3-137. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Double the webbing length with the rolled edges facing out and aline the webbing ends.

6 Position the formed loop in the original closing loop location with the alined webbing ends placed over the bag end reinforcement and the applicable main strap.

7 Secure the webbing ends to the bag end reinforcement and the main strap by stitching a 3 1/4-inch-long single-X-box-stitch formation, with two double ends, according to the details in B, figure 3-137. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(9) *Parachute inspection data pocket (log record pocket).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable parachute inspection data pocket (log record pocket) with a serviceable item from stock. Install the replacement pocket by stitching according to original construction details, using the specifics in table 3-3.

(10) *End slot reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged end slot reinforcement by fabricating as follows:

NOTE

The end slot reinforcement will only be replaced when the bridle loop strap is to be replaced.

1 Remove the original bridle loop strap using the procedures in paragraph (7) above.

2 Remove the original end slot reinforcement from the bag outside by cutting the stitching securing the reinforcement to the deployment bag.

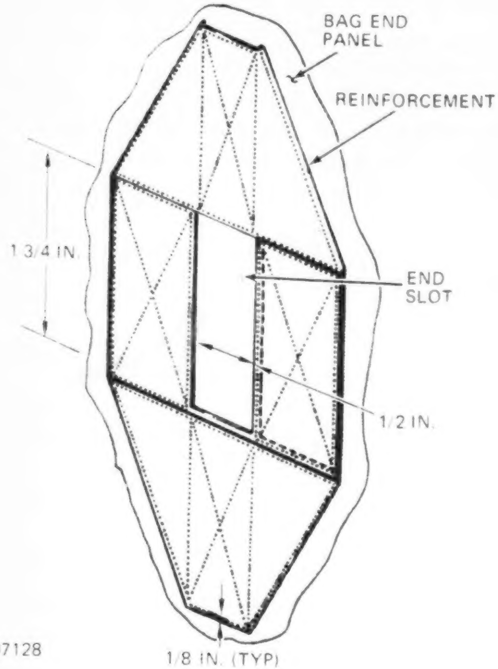


Figure 3-138. Deployment bag end slot reinforcement replacement details, 22-foot-diameter cargo extraction parachute.

3 Cut a 10 1/2-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

4 Fold the webbing length according to original construction details.

5 Secure the folded webbing in the original reinforcement location by stitching according to the details in figure 3-138. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(11) *Retainer band keeper reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged retainer band keeper reinforcement by fabricating as follows:

1 Remove that portion of the retainer band keeper which is secured to the inside of the suspension line stowage flap by cutting the applicable stitching.

2 Turn the flap to locate the flap outside facing up and cut the stitching securing the edge binding tape over the end of the applicable damaged reinforcement. Cut the stitching to a point 2 inches beyond each edge of the reinforcement.

3 Cut an 18-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

4 Position the webbing length over the damaged reinforcement on the outside of the suspension line stowage flap and insure one webbing end is alined with the original reinforcement end at the outer edge of the suspension line stowage flap.

5 Fold the loose edge binding back and secure the webbing length over the original reinforcement by stitching a box-stitch formation, 1/8 inch in from each edge, the full length of the webbing. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Reposition the loose flap edge binding in the original location and restitch the binding according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

7 Turn the flap to locate the flap inside facing up and reposition the retainer band keeper in the original location. Secure the keeper to the flap and the reinforcement by restitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(12) *Tie loop and tie loop reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. When either a tie loop on the bag inside or a tie loop reinforcement on the bag outside is damaged, the replacement action will include both items. Replace a tie loop and tie loop reinforcement by fabricating as follows:

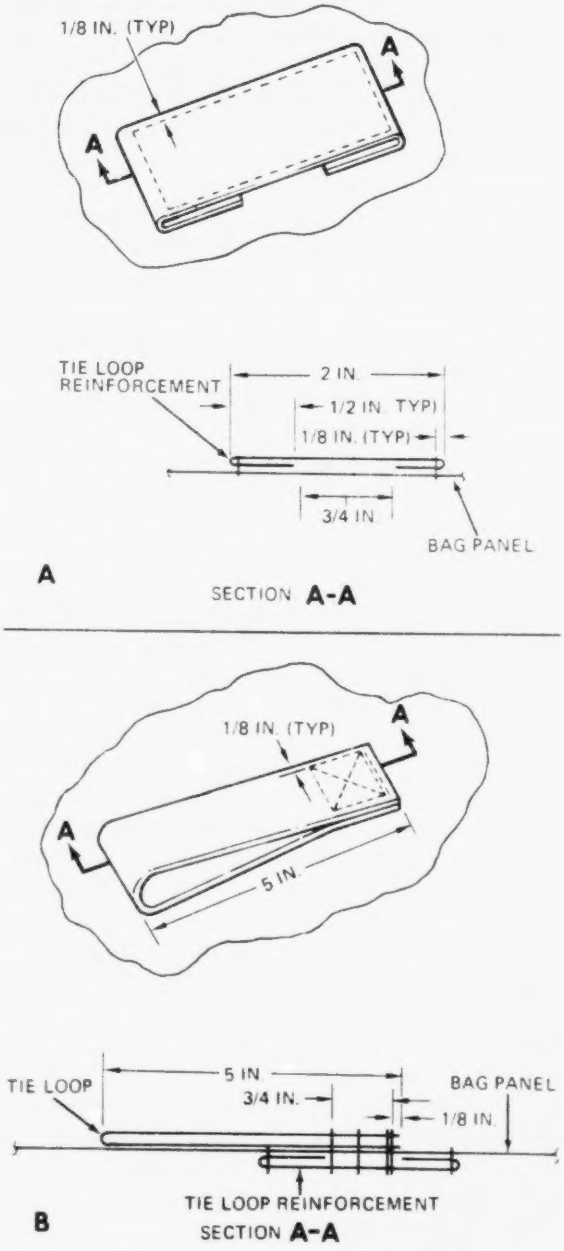
1 Remove the applicable original tie loop and tie loop reinforcement by cutting the stitching that secures both items to the deployment bag.

2 Cut a 10-inch length of 1-inch-wide, type IV nylon webbing and a 3-inch length of 1 1/2-inch-wide, type IV nylon webbing. Sear the ends of both webbing lengths.

3 Make a 1/2-inch-long turnunder on each end of the 3-inch webbing length and position the folded webbing in the original tie loop reinforcement location on the deployment bag outside with the turnunder ends facing down. Secure the replacement reinforcement to the deployment bag outside by making a single row of stitching, 1/8 inch in, along each outside edge (A, fig. 3-139). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41.

4 Double the 10-inch webbing length, aline the ends, and position the folded webbing in the original tie loop location on the inside of the deployment bag. Secure the replacement tie loop to the deployment bag and tie loop reinforcement by stitching a 3/4-inch-wide by 1-inch-long single-X-box-stitch formation with one double end (B). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(13) *Safety cord.*



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A. Outside view. *B. Inside view.*

Figure 3–139. Deployment bag tie loop and tie loop reinforcement installation details, 22-foot-diameter cargo extraction parachute.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged safety cord by fabricating as follows:

1 Remove the original safety cord from the bottom bag closing loops by cutting the cord end loops.

2 Cut a 25 1/2-inch length of type IV coreless nylon cord and taper-cut each end by 1/2 inch.

3 Using a suitable marking aid, mark the cord length at points 3, 5, and 8 inches from one tapered end.

4 Insert a suitable splicing aid into the cord casing at the 8-inch mark and work the aid through the cord to the outside at the 5-inch mark.

5 Pass 4 inches of the marked cord end through one bottom bag closing loop and attach the tapered end to the splicing aid.

6 Pull the splicing aid with the attached cord end back into the cord casing at the 5-inch mark and work the aid back through the cord casing until the 3- and 5-inch marks are alined.

7 Hold the alined marks together and work the splicing aid, with tapered cord end attached, to the outside at the 8-inch mark.

8 Remove the tapered cord end from the splicing aid and while holding the alined 3- and 5-inch marks together, stretch the cord length to allow the tapered cord end to recede inside of the cord casing.

9 Secure the formed safety cord end loop by stitching a 3/16-inch-wide by 3-inch-long row of double-throw zigzag stitching according to the details in figure 3-140, using the specifics in table 3-3.

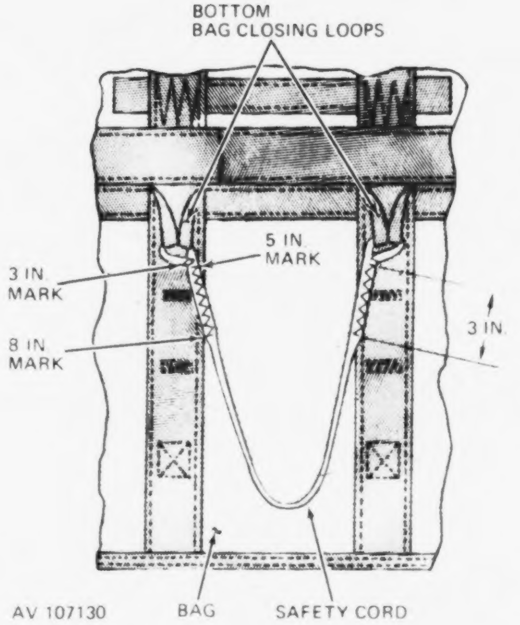

Figure 3-140. Deployment bag safety cord replacement details, 22-foot-diameter cargo extraction parachute.

10 Using a suitable marking aid, mark and attach the cord running end to the opposite bottom bag closing loop using the procedures in *3* through *9* above.

(14) *Bag end reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A bag end reinforcement may be spliced an unlimited number of times as follows:

1 Cut a length of 1 1/2-inch-wide, type IV nylon webbing long enough to extend 3 inches beyond each end of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(15) *Main strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A deployment bag main strap may be spliced an unlimited number of times as follows:

1. Cut a length of 1 23/32-inch-wide, type VIII nylon webbing long enough to extend 2 3/4 inches beyond each end of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(16) *Bag panels.*

(a) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3.

(c) Patching. A hole or tear which exceeds 3/4 inch in length or diameter may be patched providing 1 1/4 inches of undamaged material remains on each side of the damaged area. Patching will be performed as prescribed in TM 10-1670-201-23/TO 13C-1-41, using type III 7.25-ounce nylon duck cloth and the specifics in table 3-3.

(17) *Suspension line stowage flap.*

(a) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3.

(b) Patching. A hole or tear which exceeds 3/4 inch in length or diameter may be patched providing 1 1/4 inches of undamaged material remains on each side of the undamaged area. Patching will be performed as prescribed in TM 10-1670-201-23/TO 13C-1-41, using type III 7.25-ounce duck cloth and the specifics in table 3-3.

(18) *Stowage flap edge reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A stowage flap edge reinforcement may be spliced an unlimited number of times as follows:

1 Cut a length of 1-inch-wide, type IV nylon webbing long enough to extend 2 3/4 inches beyond each side of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(19) *Edge binding.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. An edge binding may be spliced an unlimited number of times using the procedures in TM 10-1670-201-23/TO

13C-1-41, 3/4-inch-wide, type III nylon tape, and the specifics in table 3-3.

d. Replacement. Replace an unserviceable 22-foot-diameter cargo extraction parachute deployment bag with a serviceable item from stock.

3–43. The Extraction Line

a. Inspection. Inspect a 60-foot-long three-loop extraction line used with the 22-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 60-foot-long three-loop extraction line by cleaning the line material and associated components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 60-foot-long three-loop extraction line which requires the cutting of stitching, tacking, or an original part, insure that adjacent webbing material is not damaged during the cutting process.

(1) *Line webbing.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(c) Splicing a concentric webbing loop. A concentric webbing loop which is damaged may be spliced provided the damage does not affect more than one-half of the webbing width or the damaged area does not exceed 6 inches in length. Each concentric webbing loop is limited to two splices per loop. In addition, a splice will not be made within 6 inches of a previous splice or an original webbing loop lap splice. Webbing loop splicing will be performed as follows:

1 If the damaged area is located on any webbing loop but the outside loop, and the affected area is located within 11 inches of either end loop, remove each of the end loop buffers by cutting the tacking and sliding the damaged webbing loop to relocate the damaged area at least 11 inches from the nearest end loop. Should the outside concentric webbing loop be damaged and the damaged area is within 11 inches of either end loop, the extraction line will be replaced.

2 Sear the edges of the damaged area to prevent fraying.

3 Cut a length of 1 23/32-inch-wide, type X nylon webbing long enough to extend 5 inches beyond each side of the damaged area and sear the ends.

4 Cut two 5 1/4-inch lengths of 1 23/32-inch-wide, type XII nylon webbing and sear the ends.

5 Center the type X nylon webbing length over the damaged area on the outside of the affected webbing loop.

6 Make splice reinforcements by wrapping one 5 1/4-inch webbing length around each end of the centered type X nylon webbing splice material and the original webbing loop. Overlap each end of the splice material by 5/8 inch (fig. 3-141).

7 Secure the splice material and splice reinforcements to the original webbing loop by stitching a 5 3/4-inch-long four-point-WW-stitch formation, 1/8 inch in from each side edge, on each end of the splice according to the details in figure 3-141. Stitching will be made in accordance with TM 10-1670-20!-23/TO 13C-1-41, using the specifics in table 3-3.

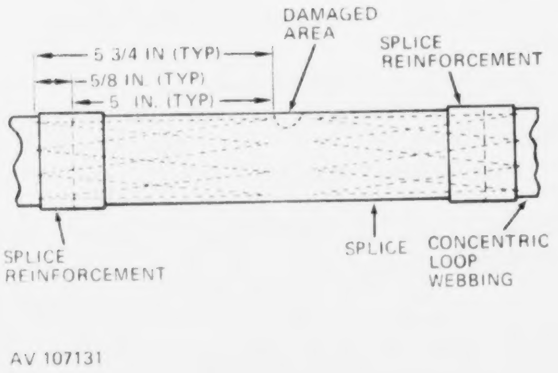

Figure 3-141. Extraction line concentric webbing loop splice details, 22-foot-diameter cargo extraction parachute.

8 If applicable, reinstall the buffers removed in *1* above and secure each buffer as outlined in paragraph (4)(*a*) below.

(2) *Release knife loop buffer.*

(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread. Secure tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(b) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Replacement. Replace a damaged release knife loop buffer by fabricating as follows:

1 Remove an original buffer from a release knife loop by cutting the tacking securing the buffer to the loop inside, cutting the stitching securing the buffer ends together, and sliding the buffer webbing from around the rectangular slot of the release knife.

2 Cut a 4-inch length of 1 3/4-inch-wide, type X cotton-nylon webbing and wax the ends.

3 Pass one end of the webbing length to the inside of the original release knife loop, through the rectangular slot of the release knife, and aline the webbing ends.

4 Secure the webbing buffer to the loop webbing by handtacking at two points according to original tacking details, using one turn double, ticket No. 5 waxed cotton thread at each tacking point. Secure the tacking ends at each tacking point with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(3) *Release knife.* As required, resharpen a release knife using a metal file.

(4) *End loop buffer.*

(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread. Secure tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(b) Replacement. Replace a damaged or missing end loop buffer by fabricating as follows:

1 If applicable, remove an original buffer from an end loop by cutting the tacking securing the buffer within the loop.

2 Cut a 13-inch length of 1 3/4-inch-wide, type X cotton webbing and wax the ends.

3 Double the webbing length, aline the ends, and position the webbing in the original buffer location.

4 Secure the folded end of the doubled webbing length to the center of the first webbing loop of the concentric webbing end loop by handtacking with one turn double, ticket No. 5 waxed cotton thread. Make the tack 3/8 to 1/2 inch wide and secure the tacking ends on the inside of the buffer with a suregon's knot and a locking knot. Trim tie ends to 1/2 inch.

(5) *Sliding keeper.* A sliding keeper which is damaged will not be repaired but replaced by fabricating as follows:

(a) To remove an original sliding keeper from an extraction line, cut the tacking securing the buffer in the nearest end loop and remove the buffer from the loop. Slide the original keeper over the end loop and off of the extraction line.

(b) Cut a 13 3/4-inch length of 1 3/4-inch-wide, type VIII cotton webbing.

(c) Form a sliding keeper by folding the webbing length according to original keeper construction details and secure the folded webbing plies together by stitching three rows of stitching completely around the formed keeper according to the details in figure 3-142. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(d) Wax the entire formed keeper.

(e) Slide the formed keeper over the applicable end loop and onto the extraction line length.

(f) Reinstall the buffer removed in *(a)* above and secure the buffer with hand-tracking using the procedures in paragraph (4)*(a)* above.

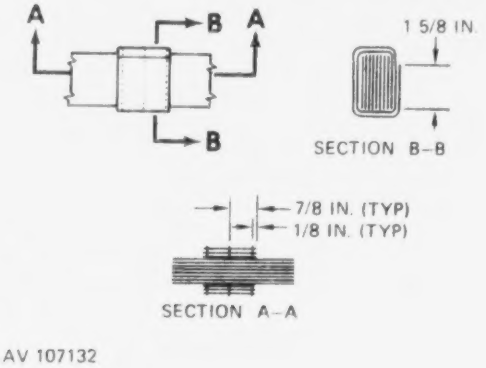

Figure 3–142. Extraction line sliding keeper construction details, 22-foot-diameter cargo extraction parachute.

d. Replacement. Replace an unserviceable 60-foot-long three-loop extraction line with a serviceable item from stock.

3–44. The Type IV Quick Release Link Assembly

a. Inspection. Inspect a type IV quick release link assembly used with the 22-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a type IV quick release link assembly by cleaning the assembly using the procedures in TM 10-1670-201-23/TO 13C-1-41.

c. Repair. Repair a type IV quick release link assembly as prescribed in TM 10-1670-240-20/TO 13C7-49-11.

d. Replacement. Replace an unserviceable type IV quick release link assembly with a serviceable item from stock.

3–45. The 5-Foot-Long Adapter Web

a. Inspection. Inspect a 5-foot-long adapter web used with the 22-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 5-foot-long adapter web by cleaning the web material in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 5-foot-long adapter web which requires the cutting of stitching, tacking, or an original part, insure that adjacent webbing material is not damaged during the cutting process.

(1) *Web body.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Long buffer.*

(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread at each tacking point. Secure the tacking ends at each tacking point with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(b) Replacement. Replace a damaged long buffer in the 6 1/8-inch-long single attaching loop by fabricating as follows:

1 Remove the original buffer from the single attaching loop by cutting the tacking securing the buffer within the loop.

2 Cut a 12 1/2-inch length of 1 3/4-inch-wide, type X cotton webbing and wax the ends.

3 Double the webbing length, aline the ends, and install the doubled webbing in the original buffer location within the single attaching loop.

4 Secure the folded webbing to the attaching loop webbing by handtacking at three points (fig. 3-143) using one turn double, ticket no. 5 waxed cotton thread at each point. Secure the tacking ends at each tacking point with a surgeon's knot and a locking knot on the loop outside. Trim tie ends to 1/2 inch.

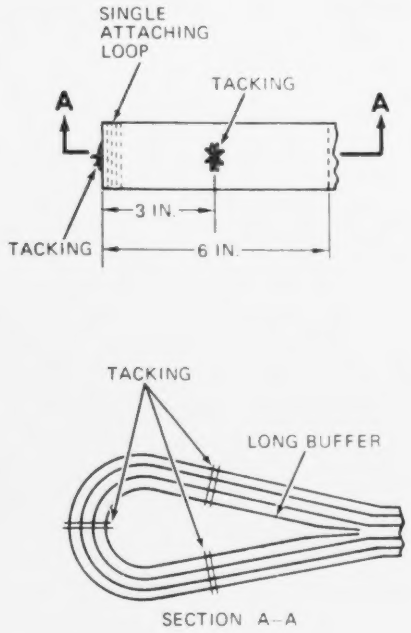

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Figure 3–143. Adapter web long buffer replacement details, 22-foot-diameter cargo extraction parachute.

(3) *Sliding keeper.* A sliding keeper which does contain a buffer and which is damaged will not be repaired, but will be replaced by fabricating as follows:

(a) Remove an original sliding keeper without buffer from an adapter web by sliding the keeper over and off the single attaching loop.

(b) Cut a length of 1 3/4-inch-wide, type X cotton webbing long enough to make two turns single around the three adapter web straps and wax the ends.

(c) Form a sliding keeper by folding the webbing length according to original keeper construction details and secure the folded webbing plies together by stitching three rows of stitching completely around the formed keeper according to the details in figure 3-144. Stitching will be made in accordance with TM

10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

NOTE

After stitching, a sliding keeper must provide as snug a fit as possible around the adapter web straps while still being large enough to slide into position over the single attaching loop with the long buffer tacked in place.

(d) Install the sliding keeper on the adapter web by sliding the keeper over the single attaching loop.

d. Replacement. Replace an unserviceable 5-foot-long adapter web with a serviceable item from stock.

NOTE

When a 60-foot, type X, 6-ply extraction line or a type X adapter web is damaged beyond repair or the use of a type XXVI extraction line is required, a type XXVI adapter web will be installed on the 22-foot extraction parachute. The complete parachute assembly will then consist of a deployment bag, the canopy and the adapter web (type XXVI). At this time the assembly will be reidentified to NSN 1670-00-063-3716, with a P/N of 11-1-2584. The type X extraction line and the type X adapter web will no longer be a component of the 22-foot extraction parachute. The NSN for the type XXVI adapter web is 1670-01-063-3691. Repair procedures for a type XXVI adapter web are the same as for a type X adapter web.

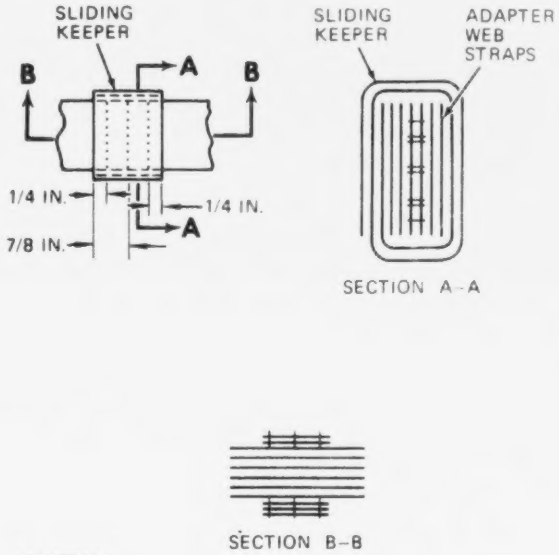

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Figure 3–144. Adapter web sliding keeper replacement details, 22-foot-diameter cargo extraction parachute.

Section XIII. THE 28-FOOT-DIAMETER CARGO EXTRACTION PARACHUTE

3–46. The Parachute Canopy

a. Inspection. Inspect a 28-foot-diameter cargo extraction parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 28-foot-diameter cargo extraction parachute canopy by cleaning and drying the canopy and associated canopy components as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 28-foot-diameter cargo extraction parachute canopy which requires the cutting of stitching or an original part, insure that adjacent canopy material is not damaged during the cutting process.

(1) *Canopy section.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(c) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3. Each canopy section may be darned a maximum of three times.

(d) Patching. Patch a hole or tear that exceeds 3/4 inch in length or diameter according to procedures in TM 10-1670-201-23/TO 13C-1-41, using type I 2.25-ounce nylon parachute cloth and the specifics in table 3-3. Each canopy section is limited to two patches.

(e) Replacement. Replace a canopy section which is damaged beyond repair by fabricating according to the gore section replacement procedures in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3 and type I 2.25-ouncé nylon parachute cloth.

(2) *Suspension line keeper.*

(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details using one turn single, size No. 5 waxed nylon thread. Secure the tacking ends with a surgeon's knot and a locking knot. Make an overhand knot in each of the tie running ends snug against the previously made knots and trim the tie ends to 1/2 inch.

(b) Replacement. Replace a damaged suspension line keeper by fabricating as follows:

1 Cut and remove the tacking located at the center of the suspension line keeper webbing.

2 Remove an original suspension line keeper from around the suspension lines by cutting the stitching securing the webbing wrap in place.

3 If the replacement keeper is to contain four suspension lines, cut a 7-inch length of 1 3/4-inch-wide, type XII cotton webbing. However, if the replacement keeper is to encircle only three suspension lines, cut a 5 1/2-inch length of the cited webbing. In either case, wax the cut webbing ends.

4 Wrap the webbing length snugly around the suspension lines in the original keeper location and allow the webbing ends to overlap on top of the suspension lines.

5 Secure the webbing wrap in position by making a single row of stitching between each of the suspension lines according to the details in figure 3-145. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Further secure the suspension line keeper by handtacking the keeper webbing at the center according to the details in figure 3-145, using one turn single, size No. 5 waxed nylon thread. Secure the tacking ends on top of the keeper with a surgeon's knot and a locking knot. Make an overhand knot in each of the tie running ends snug against the previously made knots and trim tie ends to 1/2 inch.

(3) *Bridle centering line*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bridle centering line by fabricating as follows:

1 Cut the stitching securing each end of the original bridle centering line to an attaching vent line.

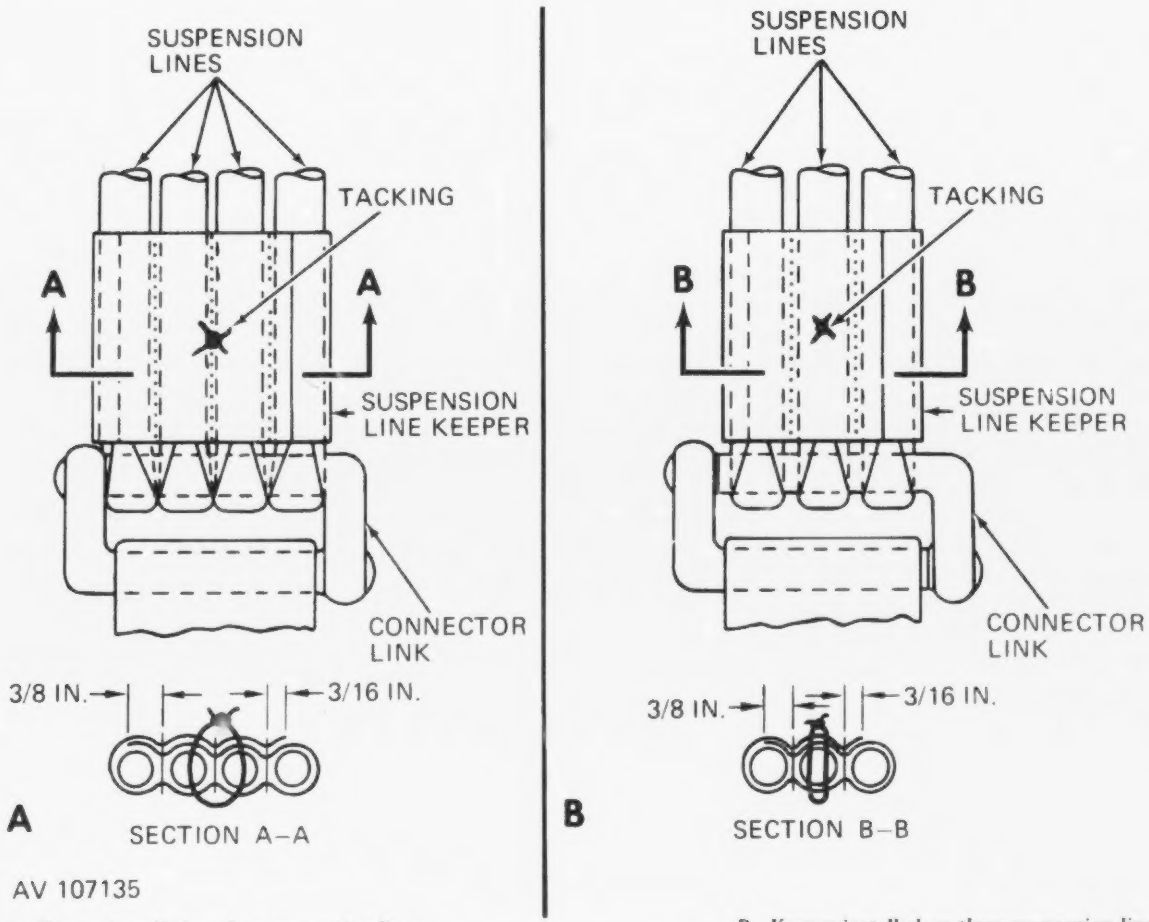
2 Remove the original centering line by extracting each of the line ends from the points of insertion into the attaching vent line.

3 Cut a 11 1/2-inch length of type VI coreless nylon cord and taper-cut each cord end by 1/2 inch.

4 Using a suitable marking aid, mark the cord length at a point 2 3/4 inches from each tapered end.

5 Using a suitable marking aid, mark the bottom side of each end of the original attaching vent line at points 3 and 7 3/4 inches from the upper edge of the vent reinforcement (upper lateral band).

6 On one end of the attaching vent line, insert a suitable splicing aid into the vent line cord casing at the 3-inch mark and work the aid through the cord casing to the outside at the 7 3/4-inch mark.


SUSPENSION LINES
TACKING
A
A
SUSPENSION LINE KEEPER
CONNECTOR LINK
3/8 IN.
3/16 IN.
A
SECTION A–A
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SUSPENSION LINES
TACKING
B
B
SUSPENSION LINE KEEPER
CONNECTOR LINK
3/8 IN.
3/16 IN.
B
SECTION B–B

A. Keeper installed on four suspension lines.

B. Keeper installed on three suspension lines.

Figure 3–145. Suspension line keeper replacement details, 28-foot-diameter cargo extraction parachute.

7 Attach one tapered end of the 11 1/2-inch length of cord to the splicing aid and work the splicing aid back through the vent line cord casing until the 2 3/4-inch mark on the attached cord end is alined with the vent line 7 3/4-inch mark.

8 Hold the cord length and the vent line together at the alined marks and continue working the splicing aid with attached cord end through the vent line cord casing to the outside at the 3-inch mark.

9 Remove the tapered cord end from the splicing aid and while holding the alined 2 3/4- and 7 3/4-inch marks together, stretch the vent line to allow the tapered cord end to recede into the vent cord casing.

10 Secure the inserted cord end within the vent line cord casing by stitching a 3/16-inch-wide by 2-inch-long row of double-throw zigzag stitching from the alined 2 3/4- and 7 3/4-inch marks toward the tapered cord end (fig. 3-146). Stitching will be made using the specifics in table 3-3.

11 Pass the cord length running end through all of the vent lines and attach the end to the attaching vent line using the procedures in *6* through *10* above.

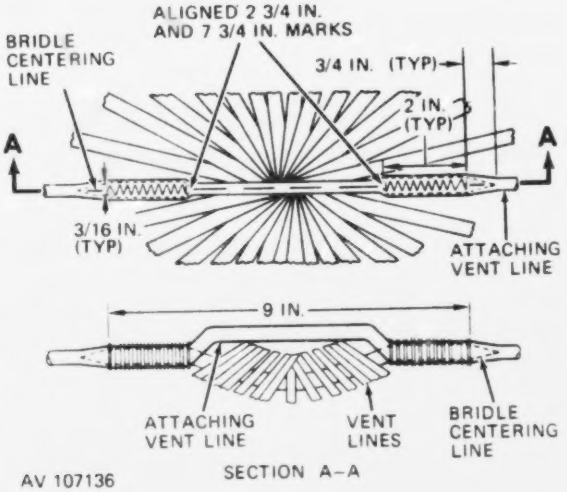


Figure 3–146. Bridle centering line replacement details, 28-foot-diameter cargo extraction parachute.

(4) *Suspension line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged suspension line by fabricating according to procedures in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3 and type VI coreless nylon cord.

(5) *Vent line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged vent line by fabricating according to procedures in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3 and type VI coreless nylon cord.

(6) *Parachute connector link assembly.*

(a) Repair. Repair a parachute connector link assembly as prescribed in TM 10-1670-201-23/TO 13C-1-41. As required, tighten loose screws using a suitable sized flat-tip (common-head) screwdriver.

(b) Replacement. Replace an unserviceable or missing parachute connector link assembly with a serviceable item from stock.

(7) *Vent loop (bridle loop).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged vent loop (bridle loop) by fabricating as follows:

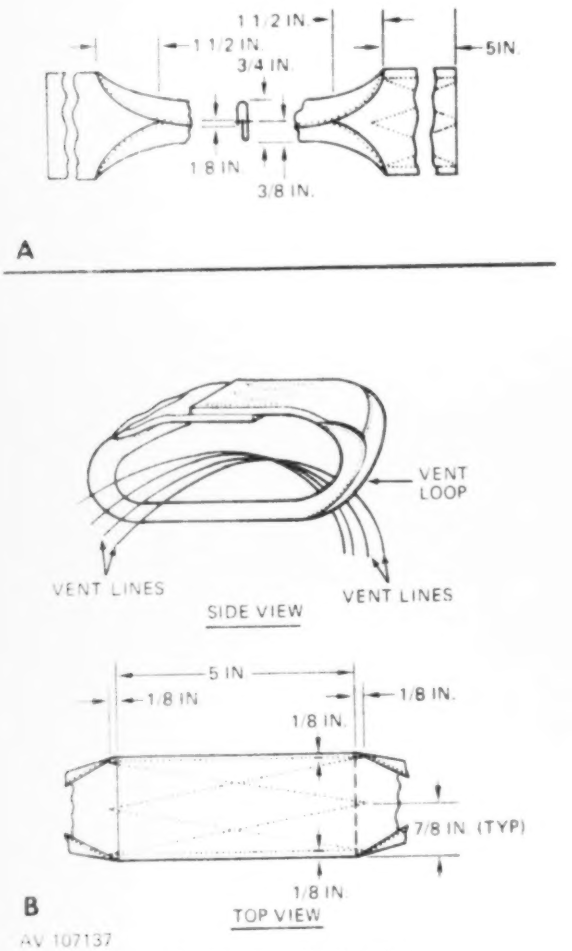
1 Cut a 20-inch length of 1 3/4-inch-wide, type VIII cotton webbing and wax the ends.

2 Using a suitable marking aid, mark the webbing length at a point 5 inches from each end.

3 Between the two 5-inch marks made in *2* above, roll 1/2 inch of each webbing edge in to the center of the webbing width and allow the webbing edges to overlap by 1/4 inch. Secure the overlapped webbing edges to the webbing length by stitching a single row of stitching along the center of the webbing overlap and 1 1/2 inches along each rolled edge beyond the point of edge overlap (A, fig. 3-147). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

4 Pass one webbing end through the vent lines and join the webbing ends together above the vent lines with a 5-inch-long overlap. Insure the webbing length encircles all vent lines.

5 Secure the overlapped webbing ends together by stitching a 5-inch-long



A. Construction details.
B. Installation details.

Figure 3-147. Vent loop replacement details, 28-foot-diameter cargo extraction parachute.

three-point-WW-stitch formation, with a 1/8-inch overstitch on each webbing end. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Remove the original vent loop by cutting the loop webbing.

(8) *Suspension line attaching loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace damaged suspension line attaching loop by fabricating as follows:

1 Cut a 23-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

2 Double the webbing length and allow one webbing end to overlap the opposite end by 1/2 inch. Baste the doubled webbing length, using basting procedures in TM 10-1670-201-23/TO 13C-1-41.

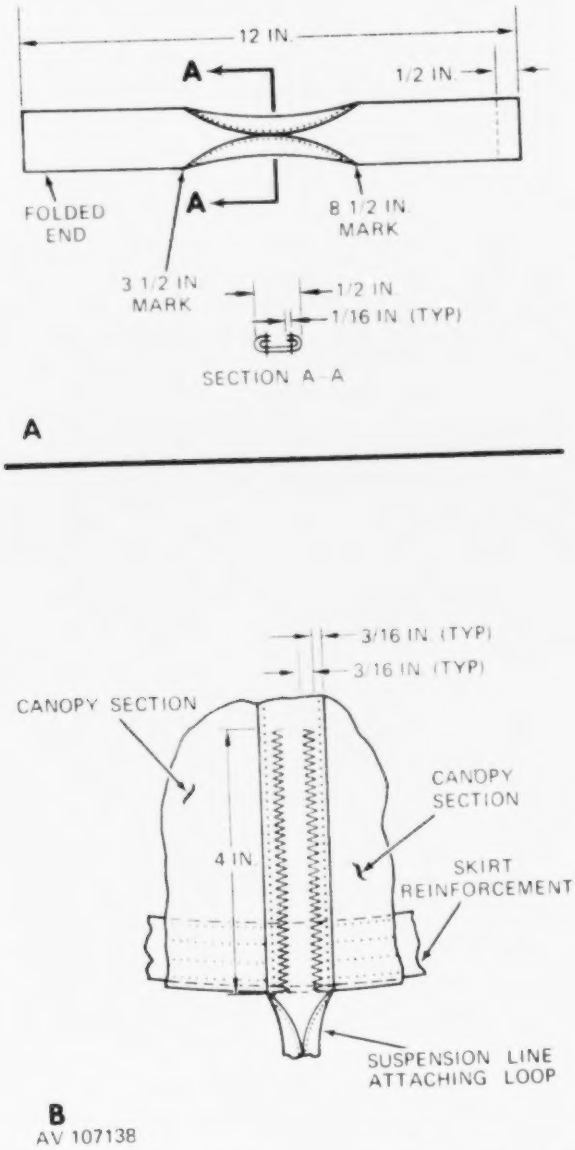
3 With the long side of the folded webbing facing up, mark the webbing long side at points 3 1/2 and 8 1/2 inches from the folded end using a suitable marking aid.

4 Remove an original suspension line attaching loop by cutting the stitching which secures the loop at the canopy skirt. If applicable, remove the suspension line upper end loop from the detached original attaching loop.

5 Between the two marks made in *3* above, roll 1/4 inch of the doubled webbing side edges in toward the center of the webbing width on the webbing long side. Secure each rolled edge by stitching a 5-inch-long row of stitching according to the details in A, figure 3-148. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

6 Turn the canopy skirt inside out and position the folded end of the doubled webbing length, with the rolled edges facing out, in the original attaching loop location and aline the 3 1/2-inch mark with the lower edge of the skirt reinforcement (lower lateral band).

7 Pass the opposite end of the doubled webbing length through the suspension line upper end loop, if applicable, and position the webbing end over the radial tape in the original attaching loop location on the



A. Construction details. *B. Installation details.*

Figure 3–148. Suspension line attaching loop replacement details, 28-foot-diameter cargo extraction parachute.

canopy outside. Aline the 8 1/2-inch mark with the lower edge of the skirt reinforcement (lower lateral band).

8 Temporarily secure the positioned webbing to the canopy skirt by hand-tacking according to temporary tacking procedures in TM 10-1670-201-23/TO 13C-1-41. Remove the basting made in *2* above.

9 On the canopy outside, fold the positioned webbing long side end under by 1/4 inch.

10 Secure the formed attaching loop webbing ends to the radial tape by stitching a row of stitching, 3/16 inch in, along each webbing side edge from the lower edge of the skirt reinforcement (lower lateral band) to a point 1/2 inch beyond the foldunder made in *9* above (**B**). Beginning at the lower edge of the skirt reinforcement (lower lateral band), further stitch two 3/16-inch-wide by 4-inch-long rows of double-throw zigzag stitching. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3. Remove the tacking made in *8* above.

(9) *Pocket band.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged pocket band by fabricating according to procedures in TM 10-1670-201-23/TO 13C-1-41, using a 7 5/8-inch length of 1-inch-wide, type IV nylon webbing and the specifics in table 3-3.

(10) *Vent reinforcement (upper lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vent reinforcement may be spliced according to upper lateral band splicing limitations and procedures in TM 10-1670-201-23/TO 13C-1-41, using 1-inch-wide tubular nylon webbing and the specifics in table 3-3.

(11) *Skirt reinforcement (lower lateral band).*

(a) Restitching. Restitch broken or loose stitching according to original construc-

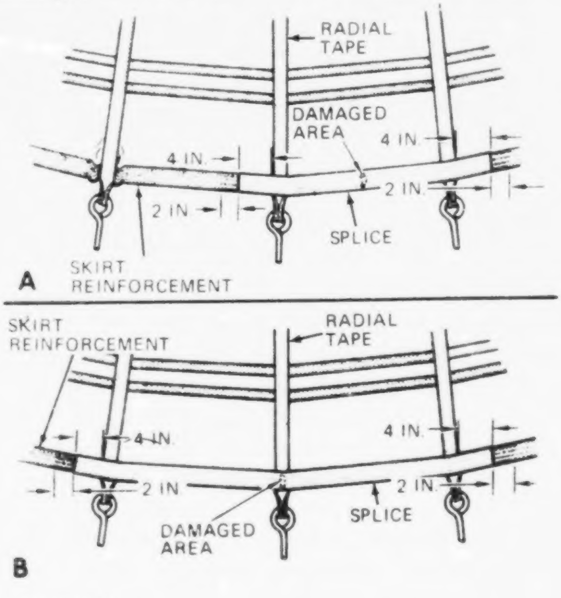
tion details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A skirt reinforcement (lower lateral band) is limited to one splice which will be made as follows:

1 Place the canopy on a repair table with the damaged area facing up.

2 Remove the pocket bands and suspension line attaching loops on each side of the damaged area by cutting the stitching securing each of the pocket bands and attaching loops to the canopy. If the damage extends into a radial tape, remove the pocket band and suspension line attaching loop at the damaged tape, and also the pocket band and attaching loop on each side of the damaged area.

3 To splice a skirt reinforcement (lower lateral band) damaged between two radial tapes, cut a length of 1-inch-wide tubular nylon webbing long enough to extend 4 inches beyond the radial tapes on each side of the damaged area (A, fig. 3-149) and sear the ends. If the damage extends into a radial tape, cut a length of the cited splice material long enough to extend 4 inches beyond the radial tapes located on each side of the damaged radial tape (B) and sear the ends.



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A. Splicing damaged area between radial tapes.

B. Splicing damaged area extending into a radial tape.

Figure 3-149. Skirt reinforcement splicing details, 28-foot-diameter cargo extraction parachute.

4 Center the splice material over the damaged area and secure the splice by stitching four rows of stitching lengthwise along the splice material according to original construction details. Overstitch each end of the splice material by 2 inches. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Reinstall the applicable pocket bands and suspension line attaching loops removed in *2* above according to original construction details, using the specifics in table 3-3.

(12) *Radial tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A radial tape may be spliced one time provided the damaged area does not exceed 12 inches in length or is not located within 12 inches of the outer edge of the vent or skirt reinforcement (upper or lower lateral band). Splicing will be performed as follows:

NOTE

If any portion of a radial tape is damaged on the inside and the outside of the canopy, the splicing effort will be accomplished on both the inside and the outside radial tape webbing.

1 Cut a length of 1-inch-wide, type IV nylon webbing long enough to extend 12 inches beyond each side of the damaged area and sear the ends.

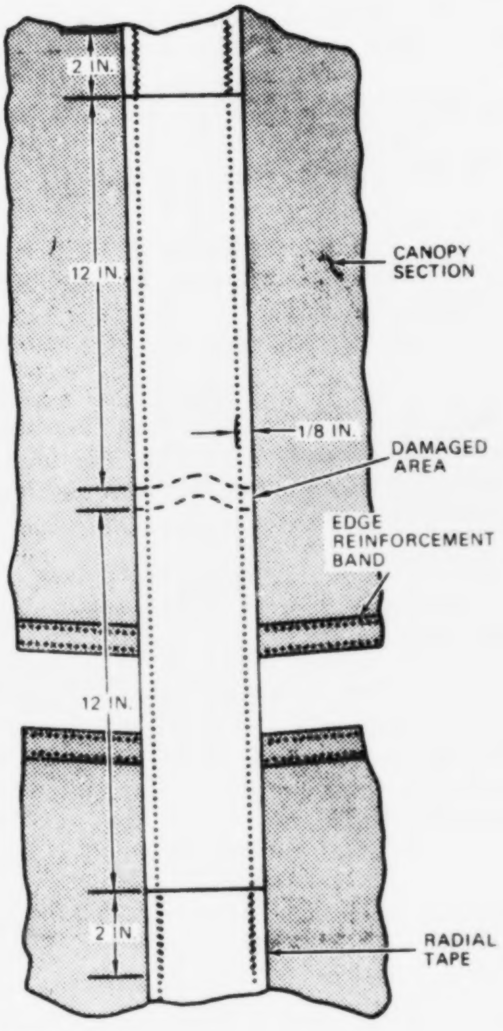

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Figure 3–150. Radial tape splicing details, 28-foot-diameter cargo extraction parachute.

2 Center the webbing length over the damaged area and secure the splice by stitching according to the details in figure 3-150. Overstitch each end by 2 inches. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(13) *Vertical tape.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A vertical tape may be spliced an unlimited number of times as follows:

1 Cut a length of 1/2-inch-wide, type III nylon tape long enough to extend 6 inches beyond each side of the damaged area and sear the tape ends.

2 Center the tape length over the damaged area and secure the splice by stitching a box-stitch formation, 1/16 inch in from each edge, along the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(14) *Edge reinforcement band.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. An edge reinforcement band may be spliced one time as follows:

1 Cut a length of 1/2-inch-wide, type III nylon tape long enough to extend 6 inches beyond each side of the damaged area and sear the tape ends.

2 Center the tape length over the damaged area and secure the splice by stitching a box-stitch formation, 1/16 inch in from each edge, along the full length of the splice material (fig. 3-151). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. Replace an unserviceable 28-foot-diameter cargo extraction parachute canopy only as authorized by Appendix C.

3–47. The Deployment Bag.

a. Inspection. Inspect a deployment bag used with the 28-foot-diameter cargo extraction

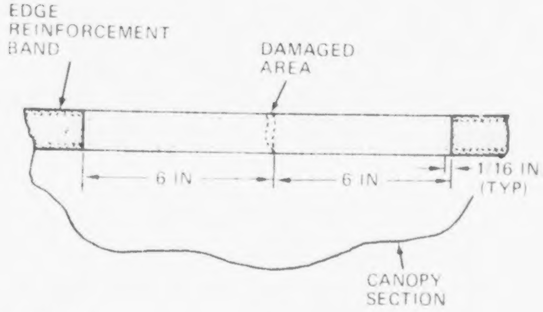

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Figure 3-151. Edge reinforcement band splicing details, 28-foot-diameter cargo extraction parachute.

parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a deployment bag by cleaning the bag material and associated components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 28-foot-diameter cargo extraction parachute deployment bag which requires the cutting of stitching or an original part, insure that adjacent bag material is not damaged during the cutting process.

(1) *Grommet.*

(a) Reseating. Reseat a loose grommet using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Replacement. Replace an unserviceable size 0 metallic grommet with a serviceable item from stock. Install a serviceable grommet using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Retainer band keeper.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged retainer band keeper by fabricating as follows:

1 Remove the original retainer band keeper by cutting the stitching securing the keeper webbing to the suspension line stowage flap and the inside of the bag bottom panel.

2 Cut a 25 1/2-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

3 Make a 1-inch-long turnunder on one end of the webbing length and position the webbing in the original keeper location with the turnunder facing down on the suspension line stowage flap.

4 Secure each end of the webbing length to the deployment bag by stitching a 3/4-inch-long single-X-box-stitch formation, with one double end, according to the details in figure 3-132. Further make four lateral rows of stitching across the webbing width at three points to form four equal sized loops in the webbing length. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(3) *V-ring and V-ring keeper.*

(a) Restitching. Restitch broken or loose stitching in accordance with original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable V-ring with a serviceable item from stock and replace a V-ring keeper by fabrication using the procedures in paragraph 3-42*c*(3)(*b*).

(4) *Bent V-ring and V-ring keeper.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable bent V-ring with a serviceable item from stock and replace a bent V-ring keeper by fabrication using the procedures in paragraph 3-42*c*(4)(*b*).

(5) Pendulum line. Replace an unserviceable pendulum line by fabrication using the procedures in paragraph 3-42c (6).

(6) *Bag Bridle Strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3.

(b) Replacement. Replace a damaged bag bridle strap by fabricating as follows:

1. Remove an original bridle strap by cutting the strap along the edge of the bag end reinforcement at two points. Insure the pendulum line is removed before cutting the bridle strap.

2. Cut a 26½ inch length of 1-23/32 inch-wide, type VIII nylon webbing and sear the ends.

3. Mark the webbing length at 13¼ inches from end and form fold and roll back 2 inches at each side from 13¼ inch mark to center of webbing. Stitch folds with size 3 nylon thread.

4. Mark the webbing 5½ inches from each end. Aline the 5½ inch mark of one webbing end over the original strap location on the outer edge of the top bag end reinforcement. Secure the 5½ inch-long webbing end on top of the bag main strap by stitching a 5½ inch-long four point-ww-stitch formation using the specifics in table 3-3. Prior to securing the webbing end, insure the folded edges stitched in *3* above face to the outside. Stitching will be made in accordance with TM10-1670-201-23.

5. Turn the deployment bag over and using the procedures on *4* above, attach the bridle strap running end to the bag bottom main strap.

(7) *Safety Cord Attachment.*

CAUTION

Do not cut or break the threads in the type IV coreless nylon cord casing while fabricating a safety line.

(a) Cut a 48-inch length of type IV coreless nylon cord and taper-cut each end by ½ inch.

(b) Using marking chalk or other suitable marking aid, mark the cord length at points 3, 4 and 7 inches from one tapered end.

(c) Insert a suitable splicing aid into the cord casing at the 7-inch mark. Work the splicing aid through the cord casing and to the outside at the 4-inch mark.

(d) Pass 3 inches of the marked cord end through the left bottom bag closing loop and attach the marked end to the splicing aid.

(e) Pull the splicing aid back into the cord casing at the 4-inch mark. Work the splicing aid back through the cord casing until the 3- and 4-inch marks are alined.

(f) Holding the alined marks together, work the splicing aid, with the tapered cord and attached, back through the cord casing and to the outside at the 7-inch mark.

(g) Remove the tapered cord end from the splicing aid. While holding the alined 3- and 4-inch marks together, stretch the cord length to allow the tapered end to recede inside of the cord casing.

(h) Secure the formed safety line end loop by making a 3-inch-long row of 3/16-inch-wide double-throw zig-zag stitching along the center of the cord casing between the alined 3- and 4- marks and the 7-inch mark. Stitching will be made using size No. FF nylon thread and a double-throw zigzag sewing machine, stitching 7-11 stitches per inch.

(i) Using marking chalk or other suitable marking aid, mark the running end of the cord length at points 23 and 24 inches from the loose tapered end.

(j) Pass the cord running end through the right bottom bag closing loop and insert a suitable splicing aid into the cord casing at the 24-inch mark.

(k) Work the splicing aid through the cord casing and to the outside at the 23-inch mark. Attach the tapered cord end to the splicing aid and work the splicing aid back through the cord casing to the outside at the 24-inch mark.

(l) Remove the tapered cord end from the splicing needle and sear the tapered end. Make an overhand knot ½ inch back from the seared tapered end and stretch the cord length to draw the knot snug against the cord casing.

(8) *Bag closing loop (top and bottom).*

(a) Restitching. Restitch broken or loose stitching by restitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged bag closing loop by fabricating as follows:

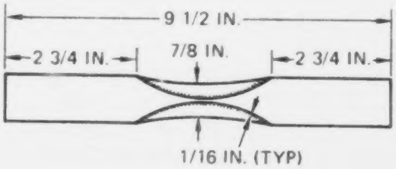
1 Remove the original bag closing loop by cutting the loop webbing flush along the outside edge of the bag reinforcement.

2 Cut a 9 1/2-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

3 Using a suitable marking aid, mark the webbing length at a point 2 3/4 inches from each end.

4 Roll the webbing edges in to the center of the webbing width between the two marks made in *3* above and secure eac rolled edge by stitching a 4-inch-long row stitching according to the details in A, figure 3-152. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

5 Double the webbing length with the rolled edges facing out and aline the webbing ends.



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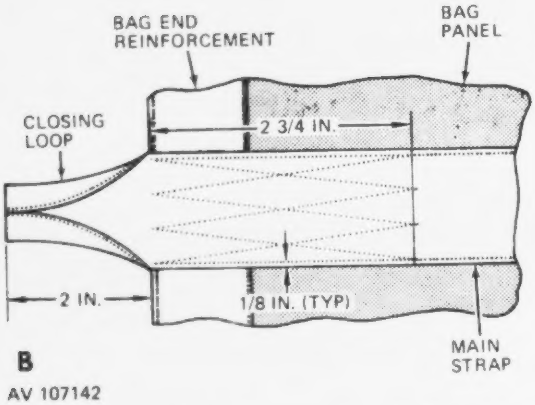


A. Construction details. *B. Installation details.*

Figure 3–152. Deployment bag closing loop replacement details, 28-foot-diameter cargo extraction parachute.

6 Place the formed loop in the original bag closing loop location with the alined webbing ends positioned over the bag end reinforcement and the applicable main strap.

7 Secure the webbing ends to the bag end reinforcement and the main strap by stitching a 2 3/4-inch-long four-point-WW-stitch formation according to the details in B, figure 3-152. Overstitch the alined webbing ends by one stitch at each point of the stitch formation. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(9) *Parachute inspection data pocket (log record pocket).*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable parachute inspection data pocket (log record pocket) with a serviceable item from stock Install a serviceable pocket by stitching according to original installation details, using the specifics in table 3-3.

(10) *End slot reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement.

NOTE

The deployment bag end slot reinforcement will only be replaced when the bridle loop strap is to be replaced.

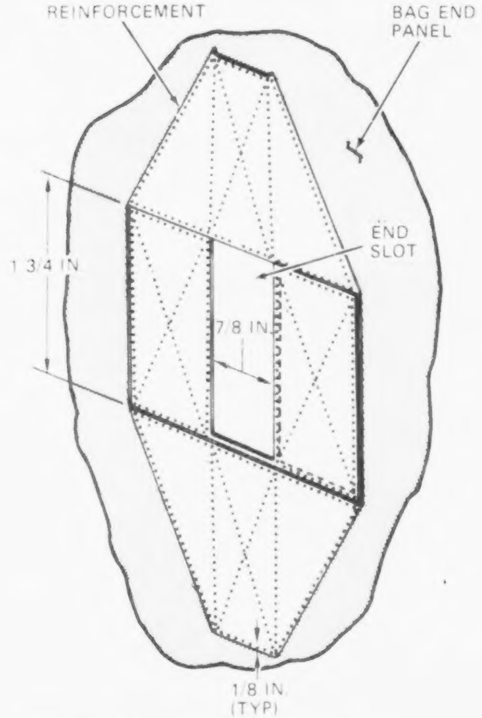
1 Remove the original bridle loop strap using the procedures in paragraph 3-42*c*(7)(*b*).

2 Remove the original end slot reinforcement from the bag outside by cutting the stitching securing the reinforcement to the deployment bag.

3 Cut a 10-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

4 Fold the webbing length according to original construction details.

5 Position the folded webbing in the original end slot reinforcement location and secure the folded webbing to the deployment bag end by stitching according to the details in figure 3-153. Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.


REINFORCEMENT
BAG END PANEL
END SLOT
1 3/4 IN.
7/8 IN.
1/8 IN. (TYP)

AV 107143

Figure 3-153. Deployment bag end slot reinforcement replacement details, 28-foot-diameter cargo extraction parachute.

(11) *Retainer band keeper reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged retainer band keeper reinforcement by fabrication using the procedures in paragraph 3-42*c*(11)(*b*).

(12) *Tie loop and tie loop reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged tie loop and tie loop reinforcement by fabrication using the procedures in paragraph 3-42*c*(12)(*b*).

(13) **Deleted.**

(14) *Bag end reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a bag end reinforcement using the limitations and procedures in paragraph 3-42*c*(14)(*b*).

(15) *Main strap.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. Splice a main strap using the limitations and procedures in paragraph 3-42*c*(15)(*b*).

(16) *Bag panels.*

(a) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3.

(c) Patching. A hole or tear which exceeds 3/4 inch in length or diameter may be patched providing 1 1/4 inch of panel material remains on each side of the damaged area. Patching will be performed as prescribed in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3 and type III 7.25-ounce nylon duck cloth.

(17) *Suspension line stowage flap.*

(a) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3.

(b) Patching. A hole or tear which exceeds 3/4 inch in length or diameter may be patched providing 1 1/4 inches of undamaged material remains on each side of the damaged area. Patching will be performed as prescribed in TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3 and type III 7.25-ounce nylon duck cloth.

(18) *Stowage flap edge reinforcement.*

(a) Restitching. Restitch broken or loose stitching according to original construc-

tion details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing Splice a damaged stowage flap edge reinforcement using the limitations and procedures in paragraph 3-42*c*(18)(*b*).

(19) *Edge binding*

(a) Restitching Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing An edge binding may be spliced an unlimited number of times using the procedures in TM 10-1670-201-23/TO 13C-1-41, 3/4-inch-wide, type III nylon tape, and the specifics in table 3-3.

d Replacement Replace an unserviceable 28-foot-diameter cargo extraction parachute deployment bag with a serviceable item from stock.

3–48. The Extraction Line

a Inspection Inspect a 60-foot-long four-loop extraction line used with the 28-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b Service Service a 60-foot-long four-loop extraction line by cleaning the line material and associated components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c Repair

CAUTION

When performing a repair on a 60-foot-long four-loop extraction line which requires the cutting of stitching, tacking, or an original part, insure that adjacent webbing material is not damaged during the cutting process.

(1) *Line webbing*

(a) Restitching Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(c) Splicing a concentric webbing loop A concentric webbing loop which is damaged may be spliced according to the limitations and procedures specified in paragraph 3-43*c*(1)(*c*).

(2) *Release knife loop buffer*

(a) Retacking Replace broken or loose tacking by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread. Secure tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(b) Restitching Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Replacement Replace a damaged release knife loop buffer by fabrication using the procedures in paragraph 3-43*c*(2)(*c*).

(3) ***Release knife*** As required, resharpen a release knife using a metal file.

(4) ***End loop buffer***

(a) Retacking Replace broken or loose tacking by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread. Secure tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(b) Replacement. Replace a damaged or missing end loop buffer by fabrication using the procedures in paragraph 3-43*c*(4)(*b*).

(5) *Sliding keeper.* A sliding keeper which is damaged will not be repaired, but replaced by fabrication using the procedures in paragraph 3-43*c*(5).

d. Replacement. Replace an unserviceable 60-foot-long four-loop extraction line with a serviceable item from stock.

3–49. The Type IV Quick Release Link Assembly

a. Inspection. Inspect a type IV quick release link assembly used with the 28-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a type IV quick release link assembly by cleaning the assembly using the procedures in TM 10-1670-201-23/TO 13C-1-41.

c. Repair. Repair a type IV quick release link assembly as prescribed in TM 10-1670-240-20/TO 13C7-49-11.

d. Replacement. Replace an unserviceable type IV quick release link assembly with a serviceable item from stock.

3–50. The 9-Foot-Long Adapter Web

a. Inspection. Inspect a 9-foot-long adapter web used with the 28-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 9-foot-long adapter web by cleaning the web material in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 9-foot-long adapter web which requires the cutting of stitching, tacking, or an original part, insure that adjacent webbing material is not damaged during the cutting process.

(1) *Web body.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Long buffer.*

(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread at each tacking point. Secure the tacking ends at each tacking point with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(b) Replacement. Replace a damaged long buffer in the 6 1/2-inch-long single attaching loop by fabrication using the procedures in paragraph 3-45*c*(2)(*b*).

(3) *Sliding keeper.* A sliding keeper which contains a buffer and which is damaged will not be repaired, but will be replaced by fabrication using the procedures in paragraph 3-45*c*(3).

d. Replacement. Replace an unserviceable 9-foot-long adapter web with a serviceable item from stock.

Section XIV. THE 3-FOOT-SQUARE PILOT PARACHUTE

3–51. The Deployment Weight Bridle Line

a. Inspection. Inspect a deployment weight bridle line used with the 3-foot-square pilot parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a deployment weight bridle line by cleaning the line material as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 3-foot-square pilot parachute deployment weight bridle line which requires the cutting of stitching, insure adjacent line material is not damaged during the cutting process.

(1) *Line webbing.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Pack locking loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace a damaged pack locking loop by fabricating as follows:

1 Remove the original pack locking loop from a deployment weight bridle line by cutting the stitching securing the loop to the line length.

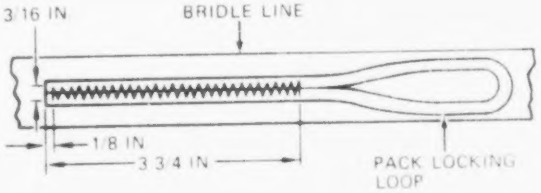


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Figure 3-154. Deployment weight bridle line pack locking loop replacement details, 3-foot-square pilot parachute.

2 Cut a 15 1/2-inch length of type III nylon cord and sear the ends.

3 Double the cord length and aline the ends.

4 Place the doubled cord length in the original pack locking loop location and secure the cord to the bridle line webbing by stitching a 3/16-inch-wide by a 3 3/4-inch long row of double-throw zigzag stitching according to the details in figure 3-154, using the specifics in table 3-3.

d. Replacement. A deployment weight bridle line which has been damaged beyond repair will not be replaced. Serviceable items will be used until stock is exhausted.

3–52. The 235 1/2-Inch-Long Retaining Line

a. Inspection. Inspect a 235 1/2-inch-long retaining line used with the 3-foot-square pilot parachute according to paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 235 1/2-inch-long retaining line by cleaning the line material and associated components in accordance with TM 10-1670-201-23/ TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 3-foot-square pilot parachute 235 1/2-inch-long retaining line which requires the cutting of stitching or tacking, insure adjacent line material is not damaged during the cutting process.

(1) *Line webbing.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Restencil. As required, restencil identification marks using procedures in TM 10-1670-201-23/TO 13C-1-41.

(c) Splicing. A 235 1/2-inch-long retaining line may be spliced one time providing the damage does not exceed one-half of the line webbing thickness or one-half of the line webbing width. Splicing will be performed as follows:

1 Cut a length of 1-inch-wide tubular nylon webbing long enough to extend 6 inches beyond each end of the damaged area and sear the ends.

2 Center the webbing length over the damaged area and secure the splice by stitching a 3/16-inch-wide row of double-throw zigzag stitching, 1/8 inch in, along each edge of the splice material length (fig. 3-155). Extend each stitch row over each end of the splice material by 1/4 inch. Stitching will be made using the specifics in table 3-3.

(2) *Buffer.*

(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread at each tacking point. Secure the tacking ends at each tacking point with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

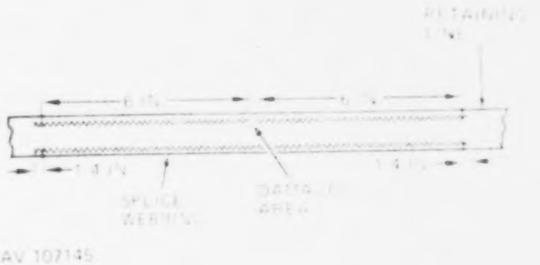

Figure 3-155. Retaining line splicing details 3-foot-square pilot parachute.

(b) Replacement. Replace an unserviceable buffer in either the snap fastener attaching loop or the V-ring attaching loop by fabricating as follows:

1 Remove the original buffer from either of the retaining line end attaching loops by cutting the tacking securing the buffer to the loop. Further, cut the stitching at the ends of the buffer webbing and slide the webbing from the rectangular slot on the applicable metal component.

2 Cut a 5-inch length of 1 3/4-inch-wide, type X cotton webbing equal to the length of the original buffer and wax the ends.

3 Center the webbing length in the rectangular slot of the original metal component and aline the webbing ends.

4 Secure the alined webbing ends together by stitching two rows of stitching laterally across the webbing width at a point 1/8 inch back from the alined ends (fig. 3-156). Stitching will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

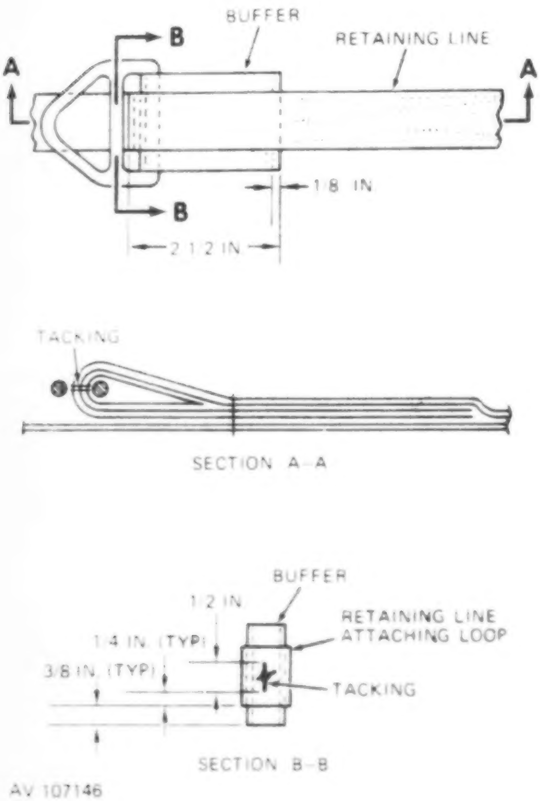

Figure 3–156. Retaining line buffer replacement details, 3-foot-square pilot parachute.

5 Secure the loop of the formed buffer to the center of the applicable attaching loop end by handtacking using one turn double, ticket No. 5 waxed cotton thread. Make the tack 1/2-inch-wide and secure the tacking ends on the outside of the attaching loop with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

d. Replacement. A 235 1/2-inch-long retaining line which has been damaged beyond repair will not be replaced. Serviceable items will be used until stock is exhausted.

3–53. The Pilot Parachute Pack

a. Inspection. Inspect a pack used with the 3-foot-square pilot parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a pilot parachute pack by cleaning the pack material and associated components in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 3-foot-square pilot parachute pack which requires the cutting of stitching or an original part, insure adjacent pack material is not damaged during the cutting process.

(1) *Panels and pockets.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darning of the pack is limited to the side panels only. Darn a hole or tear which does not exceed 3/4 inch in length or diameter in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(c) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Edge binding.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Splicing. A pack edge binding may be spliced an unlimited number of times as follows:

1 Cut a length of 3/4-inch-wide, type III cotton tape long enough to extend 1 inch beyond each end of the damaged area.

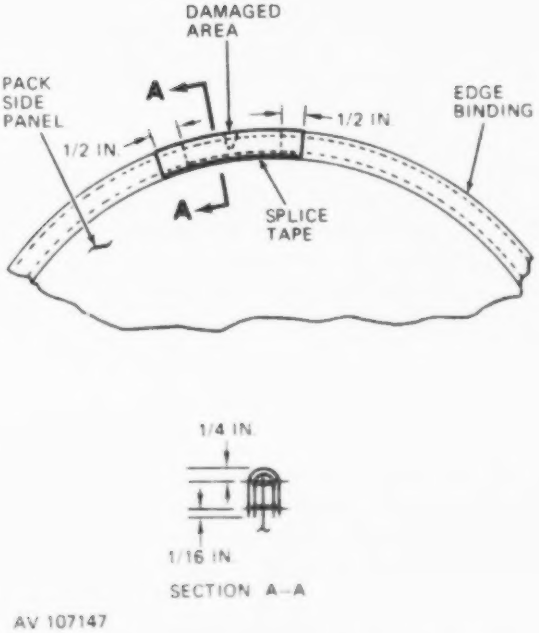

Figure 3–157. Pack end binding splicing details, 3-foot-square pilot parachute.

2 Make a 1/2-inch-long turn-under on each end of the tape length.

3 Fold the tape in half lengthwise and center the tape length over the damaged area. Secure the splice by stitching two rows of stitching along the full length of the splice material (fig. 3-157). Each stitch row will conform to original stitching details and will be made in accordance with TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(3) *Pack releasing cone.*

(a) Retacking. Replace broken or loose tacking by retacking according to original tacking details using one turn double, size No. 3 waxed nylon thread. Secure tacking ends with a surgeon's knot and a locking knot. Trim tie ends to 1/2 inch.

(b) Replacement. Replace a damaged or missing pack releasing cone with a serviceable item from stock and install a serviceable cone using the procedures in T 10-1670-201-23/TO 13C-1-41.

(4) *Tiedown cord.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Replacement. Replace an unserviceable or missing tiedown cord on a parachute pack by fabricating as follows:

1 If applicable, remove the original tiedown cord from the pack by cutting the stitching securing the cord to the pack inside.

2 Cut a 40-inch length of type III nylon cord and remove the core threads. Sear the cord ends.

3 Double the cord length and place the cord folded end in the original tiedown cord location on the pack inside bottom.

4 Secure the cord folded end over the applicable pack inside bottom seam with a 1/8-inch-wide by 1-inch-long row of double-throw zigzag stitching according to the details in figure 3-158. Stitching will be made using the specifics in table 3-3.

(5) *Grommet.*

(a) Reseating. Reseat a loose grommet using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(b) Replacement. Replace an unserviceable size No. 5 metallic grommet with a serviceable item from stock. Install a serviceable grommet using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(6) *Pack closing loop.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

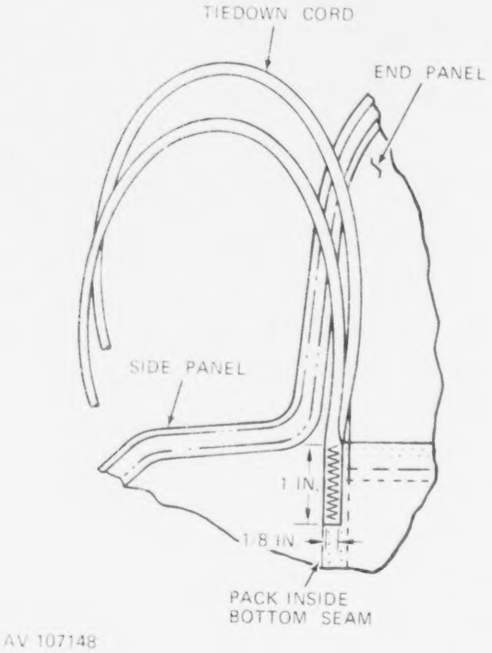
TIEDOWN CORD
END PANEL
SIDE PANEL
1 IN.
1/8 IN
PACK INSIDE BOTTOM SEAM
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Figure 3-158. Pack tiedown cord replacement details, 3-foot-square pilot parachute.

(b) Replacement. Replace a damaged or missing pack closing loop by fabricating as follows:

1 Remove the original pack closing loop from the outside of the pack side panel which does not have a grommet installed by cutting the stitching securing the loop to the panel.

2 Cut an 8-inch length of type III nylon cord and sear the ends.

3 Position the ends of the cord length in the location of the original closing loop ends to form a 2-inch-long loop. Secure each end of the cord length to the pack side panel by stitching a 1/8-inch-wide by 1 3/8-inch-long row of double-throw zigzag stitching according to the details in figure 3-159. Stitching will be made using the specifics in table 3-3.

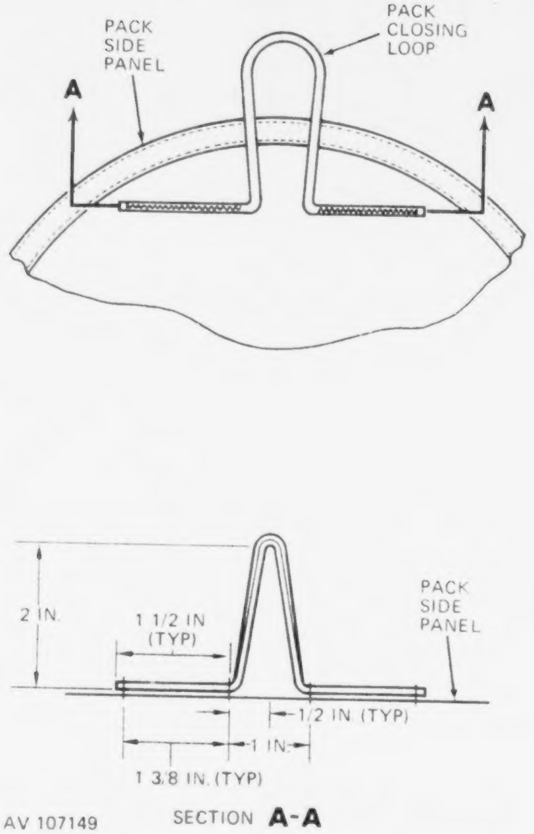
PACK SIDE PANEL
PACK CLOSING LOOP
A
A
2 IN.
1 1/2 IN (TYP)
PACK SIDE PANEL
1/2 IN (TYP)
1 IN.
1 3/8 IN. (TYP)
AV 107149
SECTION A-A

Figure 3-159. Pack closing loop replacement details, 3-foot-square pilot parachute.

d. Replacement. A 3-foot-square pilot parachute pack which has been damaged beyond repair will not be replaced. Serviceable items will be used until stock is exhausted.

3-54. The 3-Foot-Square Pilot Parachute Canopy

a. Inspection. Inspect a 3-foot-square pilot parachute canopy in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a 3-foot-square pilot parachute canopy by cleaning and drying the canopy in accordance with TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

CAUTION

When performing a repair on a 3-foot-square pilot parachute canopy which requires the cutting of stitching or an original part, insure adjacent canopy material is not damaged during the cutting process.

(1) *Canopy panel.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23/TO 13C-1-41 and the specifics in table 3-3. Each quarter of a canopy panel may be darned a maximum of three times.

(c) Patching. Patch a hole or tear which exceeds 3/4 inch in length or diameter, but does not exceed the size of a canopy panel quarter, using gore section patching procedures outlined in TM 10-1670-201-23/TO 13C-1-41 and details in figure 3-160. Patching will be performed using the specifics in table 3-3 either type III, 3.8-ounce cotton muslin cloth or type II 1.6-ounce nylon parachute cloth according to original canopy material. Each quarter of a canopy panel is limited to three patches.

(d) Restencil. As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

(2) *Suspension line.*

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

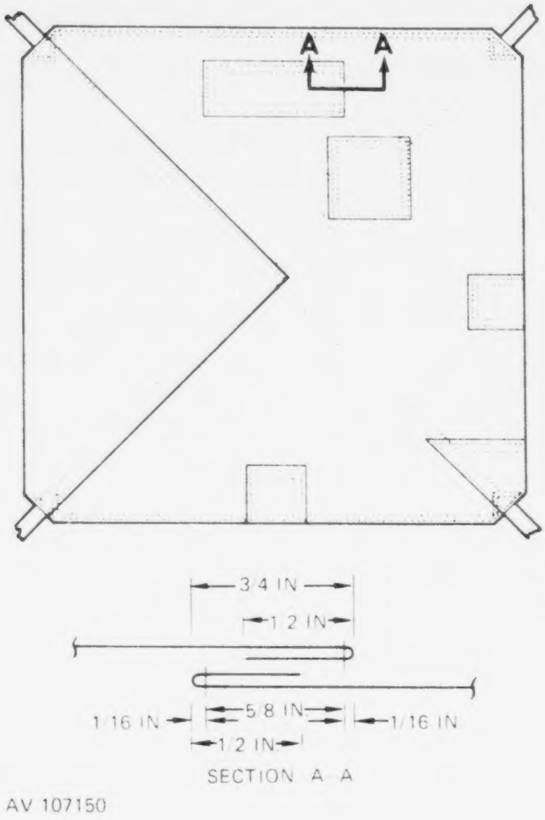

Figure 3-160. Types of canopy patches, 3-foot-square pilot parachute.

(b) Splicing. A suspension line may be spliced one time as follows:

1 Cut a length of either 1-inch-wide, type II cotton webbing or 1-inch-wide, type II nylon webbing, as applicable, long enough to extend 6 inches beyond each side of the damaged area. Wax the ends of a cotton webbing length and sear the ends of a nylon webbing length.

2 Center the applicable webbing length over the damaged area. Secure the splice by stitching a box-stitch formation, 1/8 inch in from each side edge, the full length of the splice material according to the details in figure 3-161. Stitching will be made in accordance with

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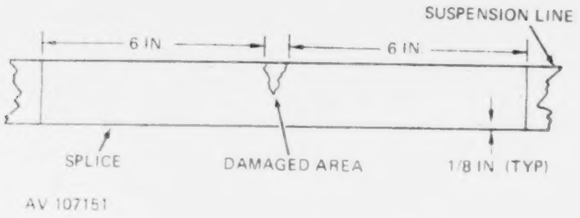


Figure 3-161. Suspension line splicing details, 3-foot-square pilot parachute.

TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

d. Replacement. A 3-foot-square pilot parachute canopy which has been damaged beyond repair will not be replaced. Serviceable items will be used until stock is exhausted.

3–55. The Deployment Weight

a. Inspection. Inspect a deployment weight used with the 3-foot-square pilot parachute in accordance with paragraph 3-4, using the procedures in table 3-1.

b. Service. Service a deployment weight by cleaning the fabric material and release plug as prescribed in TM 10-1670-201-23/TO 13C-1-41.

c. Repair.

(1) *Restitching.* Restitch broken or loose stitching in accessible areas according to original construction details and TM 10-1670-201-23/TO 13C-1-41, using the specifics in table 3-3.

(2) *Darning.* Darn a hole or tear in the nylon duck cloth bag or the cotton webbing attaching strap which does not exceed 3/4 inch in length or diameter, using hand-darning procedures in TM 10-1670-201-23/TO 13C-1-41 and size No. 3 nylon thread. However, prior to darning, weigh the affected deployment weight, with the release plug attached, to ascertain the total weight of the item. If the total weight is below 7 pounds, add a suitable amount of lead pellets to achieve the prescribed 7-pound weight factor. Replacement lead pellets will be obtained by cannibalization from an unserviceable deployment weight.

(3) *Restencil.* As required, restencil identification marks using the procedures in TM 10-1670-201-23/TO 13C-1-41.

d. Replacement. A deployment weight which is damaged and cannot be repaired using the procedures in *c* above will not be replaced. Serviceable items will be used until stock is exhausted.

Section XV. THE HEAVY DUTY 28-FOOT-DIAMETER EXTRACTION PARACHUTE

3-56. The Canopy.

a. *Inspection.* Inspect the heavy duty 28-foot-diameter canopy in accordance with paragraph **3-4**, using the procedures in table 3-1A.

b. *Service.* Service the heavy duty 28-foot-diameter canopy by cleaning the all-fabric components of the canopy as prescribed in TM 10-1670-201-23. In addition, remove burrs, rough spots or corrosion from metal items using a crocus cloth or metal file.

c. *Repair.*

CAUTION

When performing any repair on the canopy which entails cutting of stitching or removal of an original part by cutting, insure adjacent canopy materials are not damaged during the cutting process.

(1) Canopy section.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Restenciling. As required, restencil identification markings or the information data block using the procedures outlined in TM 10-1670-201-23.

(c) Darning. Darn a hole or tear which does not exceed one inch in length or diameter using the procedures in TM 10-1670-201-23 and the specifics in table 3-3A. Each canopy section may be darned a maximum of three times.

(d) Patching. Patch a hole or tear that exceeds one inch but does not exceed six inches in length or diameter according to procedures in TM 10-1670-201-23, using type II 3.5-ounce nylon parachute cloth and the specifics in table 3-3A.

(e) Replacement.

1. Sections 2 through 9.

(a) Turn the canopy inside out, and center the damaged canopy section on a repair table.

(b) Smooth the damaged section, insuring the radial tapes and section reinforcement bands are straight. Smooth the vent reinforcement (upper lateral band) if damage is in section 9. Secure the section to the repair table with pushpins or equivalent.

(c) Cut the damaged section fabric 1/2 inch in from the section reinforcement bands, radial tapes, and both sides of the vertical tape. If the damage is in section 9 cut the fabric at the vent reinforcement band (upper lateral band) leaving 1/2 inch of material. At the corners of a section, the fabric will be cut diagonally.

(d) Fold the fabric over the radial tapes and section reinforcement bands, and baste the edges.

(e) Cut a piece of type II 3.5-ounce nylon cloth large enough to allow two inches of extra fabric on each raw edge.

(f) Center the fabric piece on the prepared section with the warp of the fabric parallel to the vertical tape.

(g) Turn the fabric raw edges under two inches and align the folded edges with the outside edge of radial tapes and section reinforcement bands. The folded edge of fabric in section 9 will be aligned with the upper edge of the vent reinforcement band (upper lateral band). Secure the fabric to the radial tapes, section reinforcement bands, and vent reinforcement, as applicable, with pushpins.

(h) Baste the replacement fabric to the radial tapes, vertical tape, and section reinforcement bands with size A nylon thread, making two stitches per inch. Remove pushpins as the basting is completed.

(i) With the replacement section facing up, make a single row of stitching completely around the section, 1/16 inch in from the outside edge (fig. 3-162). Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

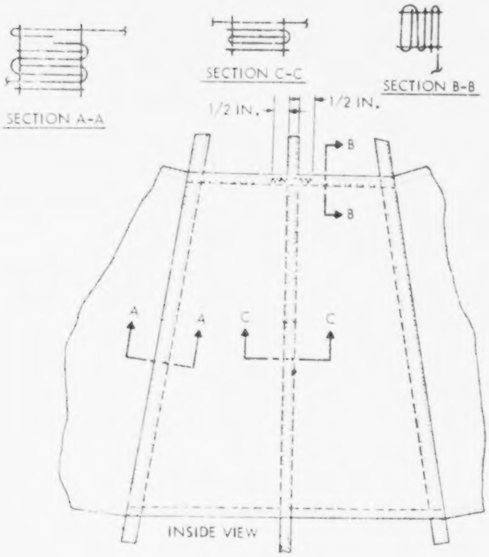


Figure 3-162. Construction details for gore sections 2 through 9, heavy duty 28-foot-diameter cargo extraction parachute

(j) Turn the canopy right side out, and make a second row of stitching completely around the inside edges of the radial tapes and section reinforcement bands or vent reinforcement band (upper lateral band), as applicable. Stitch the replacement section to the vertical tape according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(k) Trim the turned edges of the fabricated section to a point 1/2 inch from the nearest stitch row.

2. Section 1.

(a) If the damage to the section does not extend into either of the lower corners, remove the original section by cutting diagonally at each corner. Allow a suitable amount of original section fabric to remain in order to preclude the replacement section material from overlapping either the suspension line attaching loops or the pocket band stitching (fig. 3-163). Complete the section replacement using procedures in 1 above.

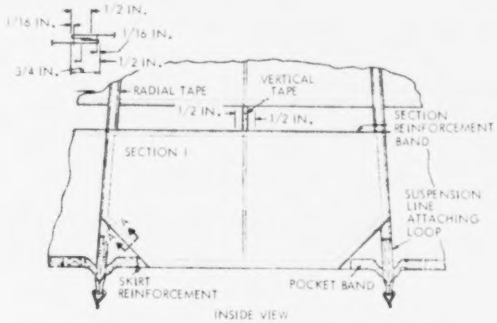


Figure 3-163. Section 1 replacement details, heavy duty 28-foot-diameter cargo extraction parachute

(b) If the damage extends into either of the lower corners, temporarily remove the two adjacent suspension line attaching loops and the applicable end of each of the two adjacent pocket bands. Replace the section using procedures in 1 above. Upon completion of section replacement, reinstall the removed suspension line attaching loops and pocket band ends by restitching according to original construction details. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(2) Bridle centering line.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged bridle centering line by fabricating as follows:

1. Remove a bridle centering line by cutting the stitching at each end of the line.

2. Cut a 12-inch length of 3/4-inch-wide tubular nylon webbing and sear the ends.

3. Position the webbing length in the original bridle centering line location on the underside center of the original attaching vent line. Make a contrasting colored mark at a point three inches on each side of the webbing length center and on the vent line.

4. Beginning at one 3-inch mark which is aligned with the vent line marking, secure one end of the webbing length to the vent line by stitching two 5/32-inch-wide rows of double-throw zigzag stitching to a point 1/2 inch beyond the adjacent webbing end (fig. 3-164). Stitching will be made using the specifics in table 3-3A.

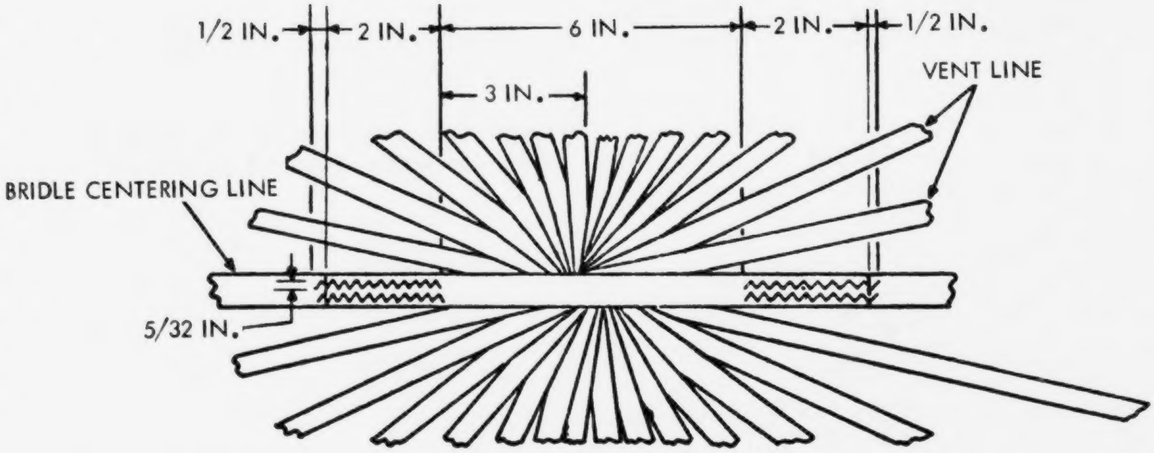


Figure 3-164. Bridle centering line attachment details, heavy duty 28-foot-diameter cargo extraction parachute.

5. Pass the webbing length running end through all of the vent lines and align the second 3-inch mark with the mark on the vent line.

6. Beginning at the aligned marks, complete the attachment of the bridle centering line to the vent line by stitching as outlined in 4. above.

(3) Suspension line.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

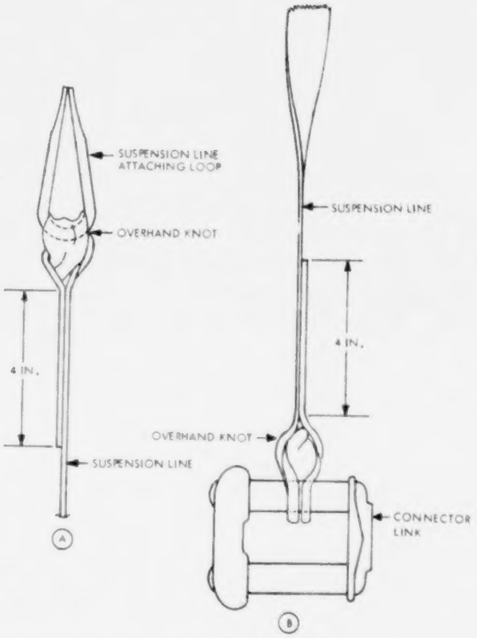
(b) Replacement. Replace a damaged suspension line by fabricating as follows:

1. Place the canopy in proper layout on a repair surface, apply partial tension to the suspension lines and trace the damaged suspension line from the connector link assembly to the suspension line attaching loop at the canopy skirt.

2. Remove the affected suspension line by cutting the loop formed on each end of the line length.

3. Sear one end of a length of 3/4-inch-wide tubular nylon webbing.

4. Pass the seared webbing end through the applicable suspension line attaching loop, make an overhand knot and draw the knot snug. Allow sufficient length on the knotted webbing loose end for a 4-inch foldback (A, fig. 3-165). Temporarily secure the foldback.



A. Line attached to suspension line attaching loop.

B. Line attached to connector link.

Figure 3-165. Suspension line attachment details, heavy duty 28-foot-diameter cargo extraction parachute.

5. Draw the webbing length toward the applicable suspension line connector link and apply tension on the webbing equal to that of an adjacent suspension line. Allowing sufficient length to apply an overhand knot and a 4-inch foldback on the connector link, cut and sear the webbing.

6. Pass the webbing end through the connector link, make an overhand knot and draw the knot snug (B). Temporarily secure the foldback.

7. Release suspension line tension and move the canopy assembly to a sewing machine table.

8. Secure the foldback located at the suspension line attaching loop by stitching a 4-inch-long, three-point-WW-stitch formation according to the details in A, figure 3-166, using specifics in table 3-3A. Stitching will be made in accordance with TM 10-1670-201-23

9. Secure the foldback at the connector link (B) by stitching, using the procedures in (h) above and the specifics in table 3-3A.

(4) Vent line.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged vent line by fabricating as follows:

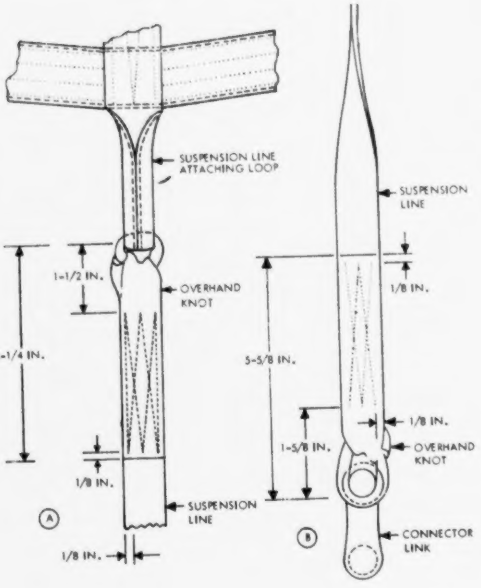
1. Remove an original vent line by cutting the stitching at each end of the line.

2. Cut a length of 3/4-inch-wide tubular nylon webbing equal to the length of an adjacent affixed vent line and sear the ends.

3. Mark the webbing length at points six inches from each end.

4. Position one end of the webbing length in the original location of one vent line end and align the 6-inch mark with the upper edge of the vent reinforcement band (upper lateral band).

5. Beginning at a point 1/8 inch back from the vent reinforcement band (upper lateral band) upper edge, secure the positioned webbing end to the radial tape by stitching two 5/32-inch-wide rows of double-throw zigzag stitching to a point 1/2 inch beyond the positioned webbing length end (fig. 3-167). Stitching will be made using the specifics in table 3-3A.



A. Suspension line attaching loop end.

B. Connector link end.

Figure 3-166. Suspension line stitching details, heavy duty 28-foot-diameter cargo extraction parachute.

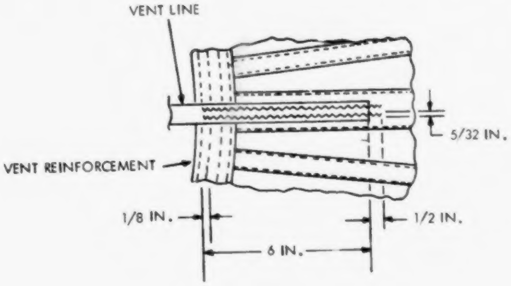


Figure 3-167. Vent line attachment details, heavy duty 28-foot-diameter cargo extraction parachute.

6. Pass the webbing length running end through the bridle centering line and the vent loop. Secure the webbing running end to the opposite side of the canopy in the original vent line end location, using procedures in 5 above.

(5) Connector link.

(a) Repair. Repair a connector link assembly as prescribed in TM 10-1670-201-23. In addition and as required, tighten loose screws using a flat-tip (common-head) screwdriver.

(b) Replacement. Replace an unserviceable connector link assembly with a serviceable item from stock, using the procedures in TM 10-1670-201-23.

(6) Vent loop.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged vent loop by fabricating as follows:

1. Cut a 20-inch length of 1 3/4-inch-wide, type X cotton webbing and wax the ends.

2. Mark the webbing at a point five inches from each end.

3. Between the two 5-inch marks, fold the side edges of the webbing in toward the center of the webbing width, allowing the edges to overlap by 1/4 inch. Secure the folded edges together with a single row of stitching according to the details in figure 3-168. Stitching will be made using specifics in table 3-3A.

4. Pass one end of the webbing length through and under all the vent lines.

5. Join the two loose ends of the webbing above the vent lines by overlapping the ends and aligning the 5-inch marks. Secure the webbing ends together by stitching a 5-inch-long, three-point-WW-stitch formation according to the details in figure 3-168, using the specifics in table 3-3A. Overstitch each webbing end by 1/8 inch. Stitching will be made in accordance with TM 10-1670-201-23.

(7) Suspension line attaching loop.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

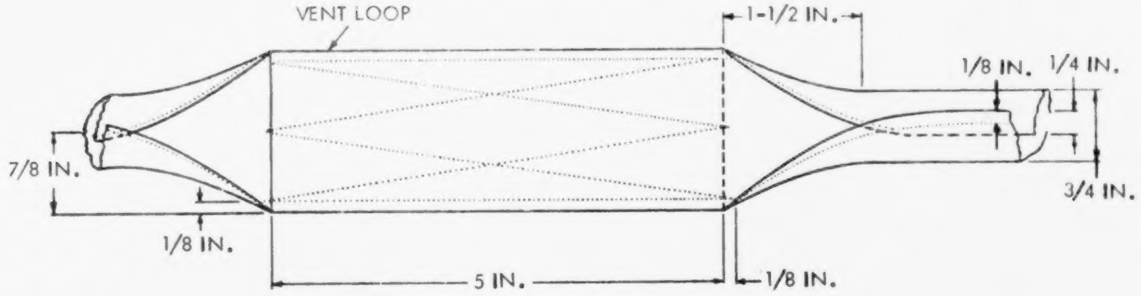


Figure 3-168. Vent loop construction details, heavy duty 28-foot-diameter cargo extraction parachute

(b) Replacement. Replace a damaged suspension line attaching loop by fabricating as follows:

1. Remove the original suspension line attaching loop by cutting the stitching which secures the loop at the canopy skirt. Further cut the loop material to remove the suspension line upper end loop, if applicable.

2. Cut a 13 1/2-inch length of 1-inch wide, type IV nylon tape and sear the ends.

3. Double the tape length and allow one end to overlap the opposite end by 1/2 inch.

4. Mark the folded tape length at points 4 1/2 and 9 1/2 inches from the folded end.

5. Between the two marks, fold the tape side edges in to the center of the tape width and secure each folded edge by stitching a single row of stitching according to original details in figure 3-169, using the specifics in table 3-3A. Stitching will be made in accordance with TM 10-1670-201-23.

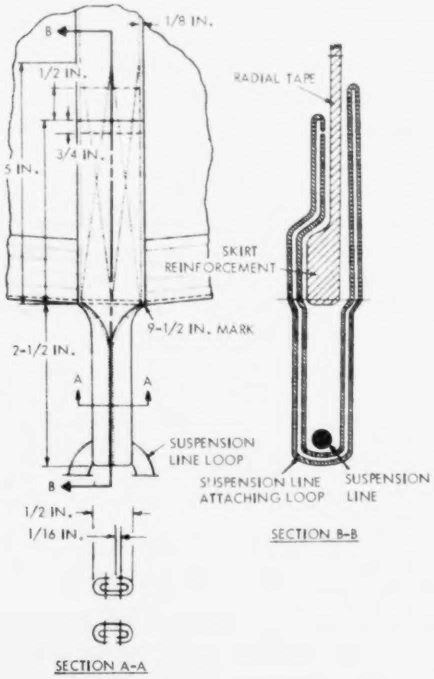


Figure 3-169. Suspension line attaching loop construction details, heavy duty 28-foot-diameter cargo extraction parachute.

6. Turn the skirt of the canopy inside out and position the nylon tape on the radial tape with the 4 1/2-inch mark aligned with the lower edge of the skirt reinforcement band (lower lateral band). Insure the folded and stitched edges of the tape face up.

7. Pass the free end of the folded tape length through the loop in the suspension line upper end, if applicable, and to the outside of the canopy skirt.

8. Place the tape free end on the radial tape aligning the 9 1/2-inch mark with the lower edge of the skirt reinforcement band (lower lateral band).

9. Fold the 1/2-inch overlapped end of the tape under by 1/4 inch and temporarily tack the tape in place.

10. Secure the formed attaching loop to the canopy skirt by stitching a 5-inch-long three-point-WW-stitch formation according to the details in figure 3-169, using the specifics in table 3-3A. Stitching will be made in accordance with Tm 10-1670-201-23. Remove tacking made in 9 above.

(8) Pocket band.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged pocket band by fabricating according to the procedures in TM 10-1670-201-23, using a 7 5/16-inch length of 1-inch-wide, type IV nylon webbing and the specifics in table 3-3A.

(9) Radial tape.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Splicing.

1. Cut a length of 1-inch-wide, type IV nylon webbing long enough to extend six inches beyond each end of the damaged area and sear the ends.

2. Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/16 inch in from each edge, the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(10) Section reinforcement band.

(a) Restitching. Restitch broken or loose stitching according or original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Splicing.

1. Cut a length of 1/2-inch-wide, type III nylon tape long enough to extend six inches beyond each side of the damaged area and sear the ends.

2. Center the tape length over the damaged area and secure the splice by stitching a box-stitch formation, 1/16 inch in from each edge, the full length of splice material. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(11) Skirt reinforcement band (lower lateral band).

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Splicing. Splice a damaged skirt reinforcement band using lower lateral band splicing procedures in TM 10-1670-201-23, 1-inch-wide tubular nylon webbing, and the specifics in table 3-3A.

(12) Vent reinforcement band (upper lateral band).

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Splicing. Splice a damaged vent reinforcement band using upper lateral band splicing procedures in TM 10-1670-201-23, 1-inch-wide tubular nylon webbing, and the specifics in table 3-3A;

(13) .Vertical tape.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

1. Cut a length of 1/2-inch-wide, type III nylon tape long enough to extend six inches beyond each end of the damaged area and sear the ends.

2. Center the tape length over the damaged area and secure the splice by stitching a single row of stitching, 1/8 inch in along each edge, the full length of the splice material. Overstitch each end by two inches. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

d. Replacement. Replace an unserviceable 28-foot-diameter cargo extraction parachute canopy only as authorized by Appendix C.

3-57. The Deployment Bag.

a. Inspection. Inspect the deployment bag used with the heavy duty 28-foot-diameter cargo extraction parachute in accordance with paragraph 3-4, using the procedures in table 3-1A.

b. Service. Service the deployment bag by cleaning the bag material as prescribed in TM 10-1670-201-23. In addition, clean metal components by removing burrs, rough spots and corrosion using a crocus cloth or a metal file.

c. Repair.

CAUTION

When performing a repair on the deployment bag which requires cutting of stitching or an original part, insure that adjacent bag material is not damaged during the cutting process.

(1) Bag bridle strap.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged bag bridle strap by fabricating as follows:

1. Remove an original bridle strap by cutting the strap along the edge of the bag end reinforcement at two points. Insure the pendulum line and bag retaining line are removed before cutting the bridle strap.

2. Cut a 28 1/2-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

3. Mark the webbing length at points 5 1/2 and 12 1/4-inches from each end.

4. Between the two 12 1/4-inch marks, fold the webbing side edges into the center of the webbing width. Secure each folded edge by stitching a single row of stitching according to original construction details, using the specifics in table 3-3A. Stitching will be made in accordance with TM 10-1670-201-23.

5. Align the 5 1/2-inch mark of one webbing end over the original strap location on the outer edge of the top bag end reinforcement. Secure the 5 1/2-inch-long webbing end on top of the bag main strap by stitching a 5 1/2-inch-long four-point-WW-stitch formation using the specifics in table 3-3A. Prior to securing the webbing end, insure the folded edges stitched in 4 above face to the outside. Stitching will be made in accordance with TM 10-1670-201-23.

6. Turn the deployment bag over and using the procedures in 5 above, attach the bridle strap running end to the bag bottom main strap.

7. Reattach the bag pendulum line and bag retaining line, if required.

(2) Grommet.

(a) Reseating. Reseat a loose grommet using the procedures in TM 10-1670-201-23.

(b) Replacement. Replace an unserviceable size O metallic grommet with a serviceable item from stock and install the grommet using the procedures in TM 10-1670-201-23.

(3) Retainer band keeper.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged retainer band keeper by fabricating as follows:

1. Remove the original retainer band keeper by cutting the stitching securing the keeper to the suspension line stowage flap and the inside of the bag bottom panel.

2. Cut a 30 5/8-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

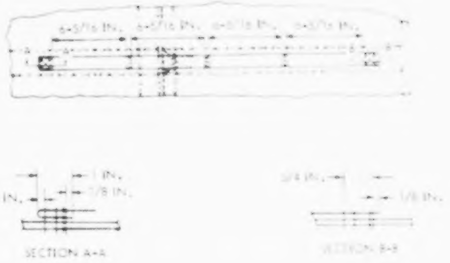


Figure 3-170. Retainer band keeper replacement details, heavy duty 28-foot-diameter cargo extraction parachute

3. Make a 1-inch-long turnunder on one end of the webbing length and position the webbing in the original keeper location with the turnunder facing down on the suspension line stowage flap.

4. Secure each end of the webbing length to the deployment bag by stitching a 3/4-inch-long single-X-box-stitch formation with one double end according to the details in figure 3-170. Further make three lateral rows of stitching across the webbing width to form four equal-sided loops in the webbing length. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(4) V-ring and V-ring keeper.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace an unserviceable V-ring with a serviceable item from stock and replace a V-ring keeper by fabricating as follows:

1 Remove the original V-ring by cutting the V-ring keeper material as close as possible to the V-ring. Trim the cut ends of the original keeper to allow the webbing ends to lie flat.

2 Cut a 6-inch length of 1 3/4-inch-wide, type VIII nylon webbing and sear the ends.

3 Pass one end of the webbing length through the rectangular slot in a serviceable V-ring and center the webbing in the slot.

4 Make a 1 1/2-inch-long turnunder on each end of the webbing length and position the webbing with the V-ring in the original V-ring location. Align the webbing folded ends with the outside edges of the original V-ring keeper.

5 Secure each folded end of the webbing length to the deployment bag by stitching a 1 1/8-inch-wide three-point-WW-stitch formation across the webbing width according to original construction details and figure 3-171. Overstitch each edge of the webbing by 1/4 inch. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(5) Bent V-ring and V-ring keeper.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace an unserviceable bent V-ring with a serviceable item from stock and replace a bent V-ring keeper by fabricating as follows:

1 Cut the center of the original bent V-ring keeper material as close as possible to the bent V-ring and also cut the center of one side support web to permit the original V-ring to be removed from the deployment bag. Trim the cut ends of the original keeper and the side support web to allow the webbing to lie flat.

2 Cut two 5 1/2-inch lengths of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

3 Insert one end of a serviceable bent V-ring under the side support web which has not been cut and position the opposite end between the cut edges of the previously cut side support web.

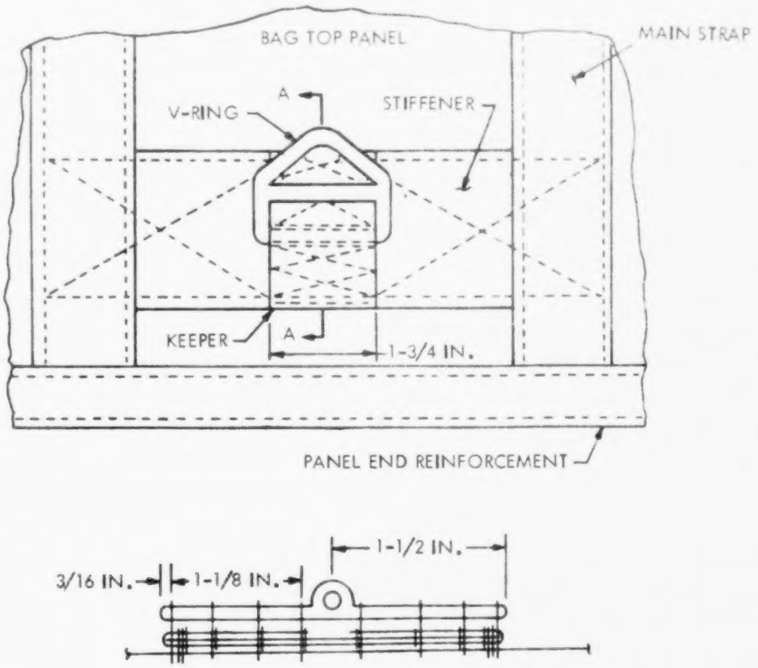


Figure 3-171. V-ring keeper replacement details, heavy duty 28-foot-diameter cargo extraction parachute.

4. Make a 1 1/4-inch-long turnunder on each end of one 5 1/2-inch length of webbing. Position the folded webbing over the bent V-ring loose end and the original cut side support web with the turnunders facing down. Align the webbing folded ends with the original support web ends.

5. Secure each end of the folded webbing to the deployment bag by a 1-inch-wide three-point-WW-stitch formation across the webbing width according to the details in figure 3-172. Overstitch the webbing edges by one stitch at each point of the stitch formation. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

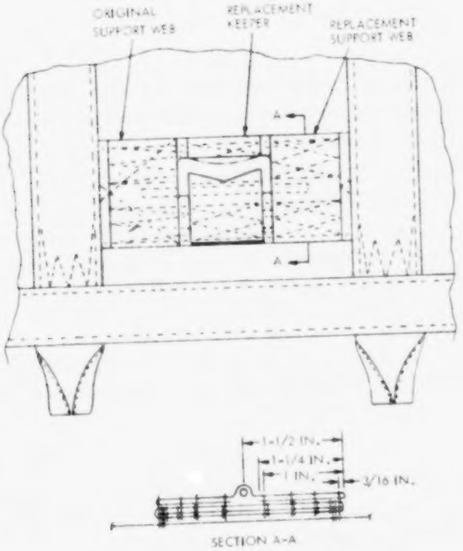


Figure 3-172. Deployment bag bent V-ring keeper replacement details, heavy duty 28-foot-diameter cargo extraction parachute

6. Center the second 5 1/2-inch webbing length in the bent V-ring rectangular slot and make a 1 1/4-inch-long turnunder on each end. Align the webbing folded end with the original keeper ends. Secure the webbing ends by stitching, using the procedures in 5 above and the specifics in table 3-3A.

(6) Bag closing loop (top and bottom).

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

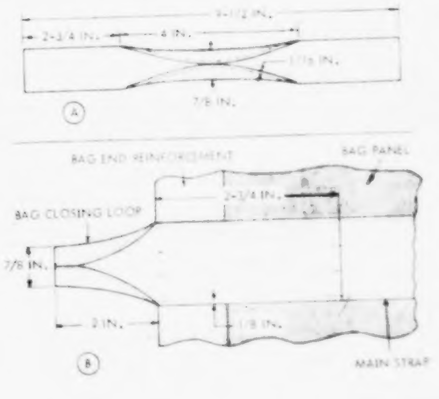
(b) Replacement. Replace a damaged bag closing loop by fabricating as follows:

1. Remove the original closing loop by cutting the loop webbing flush along the outside edge of the bag end reinforcement.

2. Cut a 9 1/2-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

3. Mark the webbing length at a point 2 3/4 inches from each end.

4. Roll the webbing side edges into the center of the webbing width between the two marks made in 3 above and secure each rolled edge by stitching a 4-inch-long row of stitching according to the details in A, figure 3-173. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.



A. Construction details.

B. Installation details.

Figure 3-173. Bag closing loop replacement details, heavy duty 28-foot-diameter cargo extraction parachute

5. Double the webbing length with the rolled edges facing out and align the webbing ends.

6. Position the formed loop in the original closing loop location with the aligned webbing ends placed over the bag end reinforcement and the applicable main strap.

7. Secure the aligned webbing ends to the bag end reinforcement and the main strap by stitching a 2 3/4-inch-long four-point-WW-stitch formation according to the details in B, figure 3-173. Overstitch the aligned webbing ends by one stitch at each point of the stitch formation. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(7) Parachute inspection data pocket (log record pocket).

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacing a tiecord and tiecord loop. Replace a damaged tiecord or tiecord loop by fabricating as outlined in TM 10-1670-201-23, using the specifics in table 3-3A.

(c) Replacement. Replace an unserviceable parachute inspection data pocket (log record pocket) with a serviceable item from stock and install the replacement pocket by stitching according to original construction details, using the specifics in table 3-3A.

(8) End slot reinforcement.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged end slot reinforcement by fabricating as follows:

1. If applicable, remove the bag retaining line from around the two bag bridle straps by untying the knots joining the line ends. Pull the line running ends back through the end slot and out through the bag mouth.

2. Remove one end of each bridle strap by cutting the stitching securing the applicable strap ends to the deployment bag.

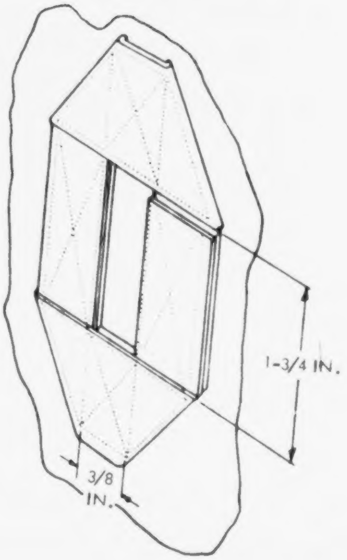


Figure 3-174. End slot reinforcement replacement details, heavy duty 28-foot-diameter cargo extraction parachute.

3. Remove the original end slot reinforcement from the bag by cutting the stitching securing the reinforcement to the deployment bag.

4. Cut a 10-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

5. Fold the webbing length according to original construction details and place the folded webbing in the original reinforcement location.

6. Secure the folded webbing to the deployment bag by stitching according to the details in figure 3-174, using the specifics in table 3-3A. Stitching will be made in accordance with TM 10-1670-201-23.

7. Reattach the bridle strap ends removed in (b) above in the original location by stitching according to original construction details, using the specifics in table 3-3A.

8. Reattach the bag retaining line, if applicable, using the procedures in paragraph 2-7*c*.

(9) Retainer band keeper reinforcement.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged retainer band keeper reinforcement by fabricating as follows:

1. Remove that portion of the retainer band keeper which is secured to the inside of the suspension line stowage flap by cutting the applicable stitching.

2. Turn the flap to locate the flap outside facing up and cut the stitching securing the edge binding tape over the end of the applicable damaged reinforcement. Cut the stitching to a point two inches beyond each edge of the reinforcement.

3. Cut a 22 1/8-inch length of 1 23/32-inch-wide, type VIII nylon webbing and sear the ends.

4. Position the webbing length over the damaged reinforcement on the outside of the suspension line stowage flap and insure one webbing end is aligned with the original reinforcement end at the outer edge of the suspension line stowage flap.

5. Fold the loose edge binding back and secure the webbing length over the original reinforcement by stitching a box-stitch formation, 1/8 inch in from each edge, the full length of the webbing. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

6. Reposition the loose flap edge binding in the original location over the webbing ends. Restitch the binding according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

7. Turn the flap to locate the flap inside facing up and reposition the retainer band keeper in the original location. Secure the keeper to the flap and the reinforcement by restitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(10) Tie loop reinforcement.

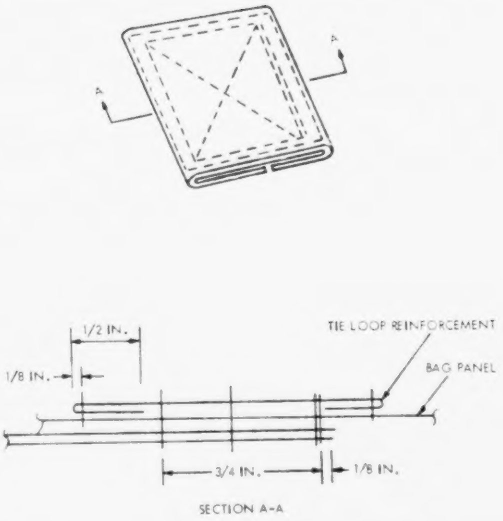


Figure 3-175. Tie loop reinforcement replacement details, heavy duty 28-foot-diameter cargo extraction parachute.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged tie loop reinforcement by fabricating as follows:

1. Remove a tie loop reinforcement from the bag outside by cutting the stitching securing the reinforcement to the center of the applicable bag panel.

2. Cut a 3-inch length of 1 1/2-inch-wide, type IV nylon webbing and sear the ends.

3. Make a 1/2-inch-long turnunder on each end of the webbing length and position the webbing in the original reinforcement location with the turnunder ends facing down.

4. Secure the folded webbing to the deployment bag by stitching a row of stitching, 1/8 inch in, along each webbing edge.

Further stitch a 3/4-inch-square single-X-box-stitch formation with one double end at the webbing center according to the details in figure 3-175. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(11) Tie loop.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged tie loop by fabricating as follows:

1. Remove the original tie loop by cutting the stitching securing the loop on the deployment bag inside.

2. Cut an 11-inch length of 1-inch-wide, type IV nylon webbing and sear the ends.

3. Double the webbing length and align the ends. Position the folded webbing in the original tie loop location.

4. Secure the aligned webbing ends with a 3/4-inch-square single-X-box-stitch formation with one double end according to the details in figure 3-176. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

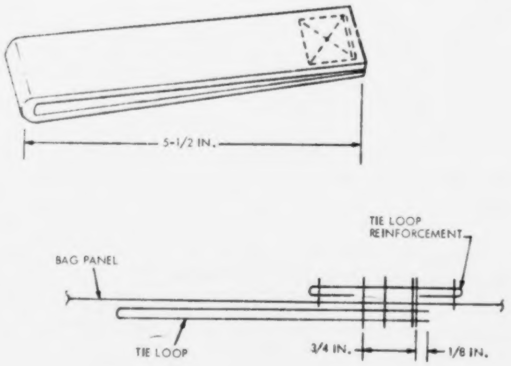


Figure 3-176. Tie loop replacement details, heavy duty 28-foot-diameter cargo extraction parachute.

(12) Edge binding.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Splicing. Splice a damaged edge binding as prescribed in TM 10-1670-201-23, using a 3/4-inch-wide, type III nylon tape and the specifics in table 3-3A.

(13) Main strap.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Splicing.

1. Cut a length of 1 23/32-inch-wide, type VIII nylon webbing 5 1/2 inches longer than the damaged area and sear the ends.

2. Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(14) Panels and flaps.

(a) Restenciling. As required, restencil identification marks using the procedures in TM 10-1670-201-23.

(b) Darning. Darn a hole or tear which does not exceed 3/4 inch in length or diameter using the procedures in TM 10-1670-201-23 and the specifics in table 3-3A.

(c) Patching. A hole or tear which exceeds 3/4 inch in length or diameter may be patched providing that 1 1/4 inch of original material remains on each side of the damaged area. Patching will be performed as prescribed in TM 10-1670-201-23, using type III 7.25-ounce nylon duck cloth and the specifics in table 3-3A.

NOTE

The suspension line stowage flap is limited to one patch which will not be larger than six inches square.

(15) Stowage flap edge reinforcement.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Splicing.

1. Cut a length of 1-inch-wide, type IV nylon webbing long enough to extend 2 3/4 inches beyond each end of the damaged area and sear the ends.

2. Center the webbing length over the damaged area and secure the splice by stitching a box-stitch formation, 1/8 inch in from each edge, the full length of the splice material. Stitching will be made in accordance with TM 10-1670-201-23, using the specifics in table 3-3A.

(16) Safety line.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3A.

(b) Replacement. Replace a damaged safety line by fabricating as follows:

1. Remove the original safety line from the bottom bag closing loops by cutting the line end loops.

CAUTION

Do not cut or break the threads in the type IV braided-coreless nylon cord casing while fabricating a safety line.

2. Cut a 48-inch length of type IV braided-coreless nylon cord and taper cut each end.

3. Mark the cord length at points three, four and seven inches from one tapered end.

4. Insert a splicing needle into the cord casing at the 7-inch mark and work the needle through the cord to the outside at the 4-inch mark.

5. Pass three inches of the marked cord end through one bottom bag closing loop and attach the tapered end to the splicing needle.

6. Pull the needle with the attached cord end back into the cord casing at the 4-inch mark and work the needle back through the cord casing until the 3 and 4-inch marks are aligned.

7. Hold the aligned marks together and work the needle, with tapered cord end attached, to the outside at the 7-inch mark.

8. Remove the tapered cord end from the splicing needle and while holding the aligned 3 and 4-inch marks together, stretch the cord length to allow the tapered cord end to recede inside of the cord casing.

9. Secure the formed safety line end loop by stitching a 3-inch-long row of double-throw zigzag stitching along the center of the cord casing between the two aligned marks and the 7-inch mark (fig. 3-177). Stitching will be made using the specifics in table 3-3A.

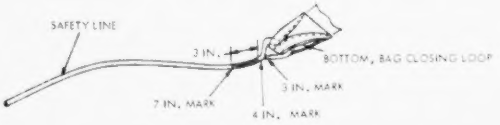


Figure 3-177. Safety line replacement details, heavy duty 28-foot-diameter cargo extraction parachute.

10. Mark and attach the cord running end to the opposite bottom bag closing loop using the procedures in 3 and 9 above.

(17) Pendulum line. A pendulum line which is damaged will be replaced by fabricating as follows:

(a) Remove the original pendulum line by cutting the loop formed in the line at the bag bridle straps.

CAUTION

Do not cut or break the threads in the type IV braided-coreless nylon cord casing while fabricating a pendulum line.

(b) Cut an 85-inch length of type IV braided-coreless nylon cord. Taper cut one end by 1/2 inch and sear the opposite end.

(c) Mark the cord length at points 6 1/2 and 8 inches from the cord tapered end.

(d) Insert a splicing needle into the cord casing at the 8-inch mark and work the needle through the cord to the outside at the 6 1/2-inch mark.

(e) Pass the tapered cord end around the two bag bridle straps and attach the tapered end to the splicing needle.

(f) Pull the splicing needle back into the cord casing at the 6 1/2-inch mark and work the needle, with cord end attached, back through the cord casing to the outside at the 8-inch mark (fig. 3-178).

(g) Remove the tapered cord end from the splicing needle and sear the tapered end.

(h) Make an overhand knot in the cord running end at a point one inch back from the seared tapered end and stretch the loop in the cord length to draw the knot snug against the cord casing.

(18) Replacement. Replace an unserviceable 28-foot-diameter cargo extraction parachute deployment bag with a serviceable item from stock.

(19) The 60-foot extraction line.

(a) Repair. The 60-foot extraction line will be repaired as outlined in paragraph 3-48 with the exception of splicing. No splicing is permitted on these lines.

(b) Replacement. Should the 60-foot extraction line need replacing, it will be replaced with a serviceable item from stock.

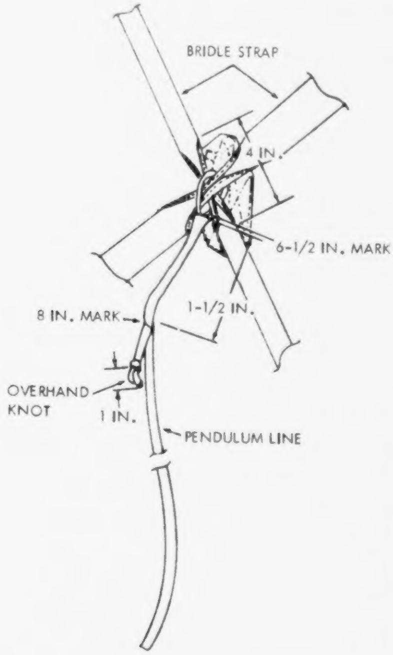


Figure 3-178. Pendulum line replacement details, heavy duty 28-foot-diameter cargo extraction parachute.

NOTE

Use of a modified parachute as both an A and B will require careful attention on the part of all personnel to assure that A and B G-11 type configuration are not used for the wrong load applications or mixed.

3-58. The 106-Inch-Long Adapter Web.

a. ***Inspection.*** Inspect the 106-inch-long adapter web in accordance with paragraph 3-4, using the procedures in table 3-1.

b. ***Service.*** Service the 106-inch-long adapter web by cleaning the webbing material as prescribed in TM 10-1670-201-25.

c. ***Repair.***

CAUTION

When performing a repair on the 106-inch-long adapter which requires the cutting of stitching, tacking, or the removal of an original part by cutting, insure that adjacent webbing material is not damaged during the cutting process.

(1) Long Buffer.

(a) ***Retacking.*** Replace broken or loose tacking securing the long buffer in the large single attaching loop by retacking according to original tacking details using one turn double, ticket No. 5 waxed cotton thread at each tacking point. Secure the tacking ends with a double square knot and trim tie ends to 1 2 inch.

(b) ***Replacement.*** Replace a damaged or missing long buffer in the large single attaching loop by fabricating as follows:

1. If applicable, remove the original long buffer by cutting the tacking securing the buffer within the large attaching loop.

2. Cut a 10-inch length of 1 3 4-inch-wide, type X cotton webbing and wax the ends.

3. Double the webbing length and position the buffer in the original buffer location within the large single attaching loop. Secure the buffer to the loop webbing by handtacking at three points using one turn double, ticket No. 5, waxed cotton thread at each point according to original construction details. Secure the ends of each tack with a double square knot and trim tacking ends to 1 2 inch.

(2) ***Short Buffer.***

(a) ***Restitching.*** Restitch broken or loose stitching securing a buffer within a small attaching loop according to original construction details and TM 10-1670-201-25, using the specifics in table 3-3.

(b) ***Replacement.*** Replace a damaged small attaching loop buffer by fabricating as follows:

1. Remove an original buffer from a small attaching loop by cutting the stitching securing the buffer within the loop.

2. Cut a 6-inch length of 1 3 4-inch-wide, type VIII cotton webbing and wax the ends.

3. Double the webbing length and allow one end to overlap the opposite end by 1 2 inch.

4. Place the doubled webbing length in the original attaching loop according to original installation details. Secure the buffer in the loop by stitching according to original construction details, using the specifics in table 3-3. Stitching will be made in accordance with TM 10-1670-201-25.

(3) ***Sliding Keeper.*** A sliding keeper which has defective stitching or is damaged will be replaced by fabricating as follows:

(a) Cut the tacking securing the buffer in the large single attaching loop and remove the buffer from the loop.

(b) Remove the original sliding keeper from the adapter web by sliding the keeper off the large attaching loop end of the web.

(c) Cut an 8-inch length of 1 3 4-inch-wide, type X cotton webbing.

(d) Form and secure the buffer with stitching according to original constructions details and figure 3-179. Stitching will be made in accordance with TM 10-1670-201-25, using the specifics in table 3-3.

(e) Wax the entire formed sliding keeper.

(f) Install the sliding keeper on the adapter web by reversing the procedure in (b) above. Insure the keeper fits snug around the adapter web.

(g) Reinstall the buffer in the large single attaching loop using the procedures in paragraph 1 above.

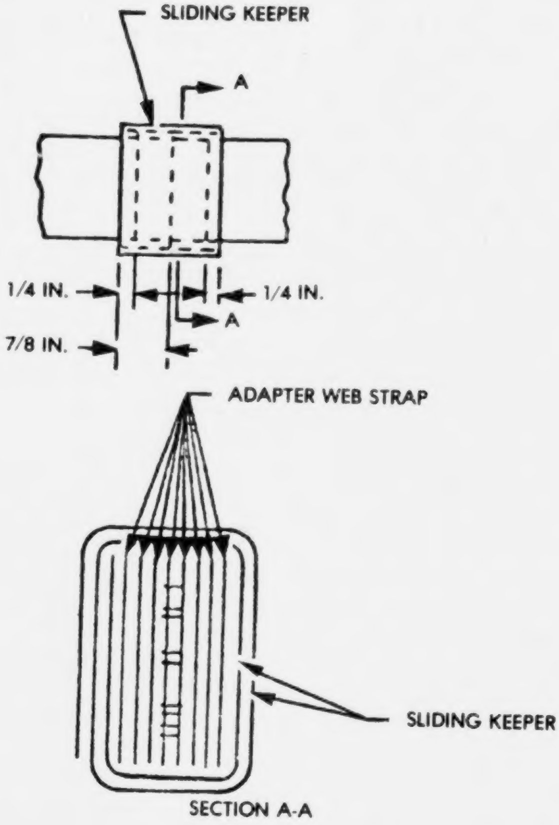


Figure 3-179. Sliding Keeper Construction Details, 106-inch Long Adapter Web.

(4) Fixed Keeper.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-25, using the specifics in table 3-3.

(b) Replacement. Replace a damaged fixed webbing keeper by fabricating as follows:

1. Remove an unserviceable fixed webbing keeper by cutting the stitching which secures the keeper to the adapter web.

2. Restitch the original fixed keeper area on the adapter web according to original construction details, using the specifics in table 3-3. Stitching will be made in accordance with TM 10-1670-201-25.

3. Cut a length of 1-inch-wide type III filament-reinforced pressure-sensitive tape long enough to make three turns around the adapter web.

4. Wrap the tape length tight around the adapter web in the original fixed keeper location.

(5) Webbing Length.

(a) Restitching. Restitch broken or loose stitching according to original construction details and TM 10-1670-201-25, using the specifics in table 3-3.

(b) Restenciling. As required, restencil identification marks using the procedures in TM 10-1670-201-25.

(6) Replacement. Replace an unserviceable 106-inch-long adapter web with a serviceable item from stock.

3-59. Bridle, Extraction Line Deployment Bag. Inspection, Service and Repair for the bridle will be the same as for the G-11A deployment bag bridle as outlined in paragraph 3-34. When damaged beyond repair replace with a serviceable item from stock.

3-60. Deployment Bag, Extraction Line.

a. ***Inspection.*** Inspect an extraction line bag assembly inaccordance with TM 10-1670-201-23, using the procedures in table 3-1.

b. ***Service.*** Service an extraction line bag assembly by cleaning the bag fabric material as prescribed in TM 10-1670-201-23.

CAUTION

When performing a repair on an extraction line bag which requires cutting of stitching or an original part, insure that adjacent bag fabric is not damaged during the cutting process.

3-61. Bag Panel.

a. ***Restitching.*** Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3.

b. ***Darning.*** Darn a hole or tear which does not exceed 1-inch in length or diameter according to procedures in TM 10-1670-201-23, using the specifics in table 3-3.

c. ***Patching.*** A hole or tear which exceeds 1-inch, but does not exceed 6-inches in length or diameter may be patched providing at least 1 1/4 inches of original material remains on each side of the damaged area. Patching will be performed in accordance with TM 10-1670-201-23, using the specifics in table 3-3. Patch material for a panel will be of type I 23.93 ounce, cotton duck cloth.

d. ***Reseating a Grommet.*** Reseat a loose grommet using the procedures in TM 10-1670-201-23.

e. ***Replacing a Grommet.*** Replace an unserviceable 3 grommet with a serviceable item from stock and install the grommet using the procedures in TM 10-1670-201-23.

3-62. The Parachute Connector Link.

a. ***Inspection.*** Inspect a parachute connector link in accordance with table 3-1A.

b. ***Service.*** Service a parachute connector link by removing burrs, rough spots or corrosion using a crocus cloth or metal file.

c. ***Repair.*** Repair a parachute connector link as prescribe in TM 10-1670-201-23. In addition and if required, tighten loose screws using a flat-tip (common-head) screwdriver.

d. ***Replacement.*** Replace an unserviceable parachute connector link with a serviceable item from stock and the procedures in TM 10-1670-201-23 as applicable.

3-63. The 55-Foot Drogue Line.

a. ***Inspection.*** Inspect a drogue line in accordance with table 3-1.

b. ***Service.*** Service the drogue line by cleaning the line material as prescribed in TM 10-1670-201-23.

c. ***Repair.***

(1) ***Restitching.*** Restitch broken or loose stitching according to original construction details and TM 10-1670-201-23, using the specifics in table 3-3.

(2) ***Restenciling.*** As required, restencil identification marks, as prescribed in TM 10-1670-201-23.

d. ***Replacment.*** Replace an unserviceable drogue line with a serviceable item from stock.

APPENDIX A

REFERENCES

A-1. Dictionaries of Terms and Abbreviations

AR 310-25	Dictionary of United States Army Terms
AR 310-50	Authorized Abbreviations and Brevity Codes

A–2. Publications Index

DA PAM 310-4	Index of Technical Manuals, Technical Bulletins, Supply Manuals (types 7, 8, and 9), Supply Bulletins, and Lubrication Orders
DA PAM 310-7	US Army Equipment Index of Modification Work Orders

A-3. Logistics and Storage

AR 700-15	Preservation, Packaging, Packing, and Marking of Items of Supply
AR 55-45	Military Standard Transportation and Movement Procedures (MILSTAMP)
TM 38-230-1 and TM 38-230-2	Preservation, Packaging, Packing of Military Supplies and Equipment (Vols. 1 and 2)
TM 740-90-1	Administrative Storage of Equipment
TM 743-200-1	Storage and Materials Handling

A–4. Property Accountability

AR 735-11	Accounting for Lost, Damaged, and Destroyed Property

A–5. Disposal

AR 755-2	Disposal of Excess, Surplus, Foreign Excess, Captured, and Unwanted Material
DOD Manual 4160.21-M	Defense Disposal Manual

A–6. Maintenance of Supplies and Equipment

AR 750-1	Army Material Maintenance Concepts and Policies
AR 750-32	Air Delivery, Parachute Recovery, and Aircraft Personnel Ejection Systems
TM 10-269	General Repair of Canvas and Webbing
TM 10-1670-201-23/ TO 13C-1-41	Organizational and DS Maintenance Manual for General Airdrop Equipment
TM 10-1670-240-20/ TO 13C7-49-11	Organizational Maintenance Manual Including Repair Parts and Special Tools List for Miscellaneous Airdrop Canvas, Webbing, Metal, and Wood Items
TM 10-3530-202-24	Sewing Machines for the Repair of Parachutes and Allied Equipment
TM 38-750	The Army Maintenance Management System (TAMMS)
TB 9-1377-201-15	Cutter, Cartridge Actuated M21 and M22 Description and Characteristics
TB 750-99-16	Maintenance Expenditure Limits for FSC Group 16
TB 750-126	Use of Material Condition Tags and Labels on Army Aeronautical and Air Delivery Equipment
SB 700-50	Expendable Items (Except Medical, Class V, Repair Parts, and Heraldic Items)

A-7. Other Publications

TM 43-0002-1 / TO 13C-1-10	Procedures for the Destruction of Air Delivery Equipment to Prevent Enemy Use
TM 9-1550-20-10	Operators Manual: Creeper Target Missile System (QQ-19B and QQ-19D) Target Missle Assemblies (QQ-19B and QQ-19D) Catapult A-7; Rotary Launcher Set A2 and Related Control, Testing, and Handling Equipment
TM 10-500/ TO 13C7-15	Airdrop of Supplies and Equipment

APPENDIX B

MAINTENANCE ALLOCATION CHART

Section I. INTRODUCTION

B–1. General

This appendix contains explanations of all maintenance and repair functions authorized to be performed by organizational and direct support maintenance activities on cargo parachutes. The maintenance allocation chart (MAC) depicts the maintenance functions to be performed based on skills available, time required, and tools authorized.

B–2. Maintenance Functions

Maintenance functions will be limited to and defined as follows:

a. Inspect. To determine serviceability of an item by comparing the physical, mechanical, and/or electrical characteristics with established standards through examination.

b. Test. To verify serviceability and to detect incipient failure by measuring the electrical or mechanical characteristics of an item and comparing these characteristics with prescribed standards.

c. Service. Operations required periodically to keep an item in proper operating condition, i.e., to clean, preserve, paint, drain, or to replenish fuel, lubricants, hydraulic fluid, or compressed air supplies.

d. Adjust. To maintain, within prescribed limits, by bringing into proper or exact position, or by setting the operating characteristics to specified parameters.

e. Align. To adjust specified variable elements of an item to bring to about optimum or desired performance.

f. Calibrate. To determine and cause corrections to be made or to be adjusted on instruments, or test measuring and diagnostic equipment, used in precision measurement. Consists of comparisons of two instruments, one of which is a certified standard of known accuracy, to detect and adjust any discrepancy in the accuracy of the instrument being compared.

g. Install. The act of emplacing, seating, or fixing into position an item, part, or module (component or assembly) in a manner to allow the proper functioning of an equipment or system.

h. Replace. The act of substituting a serviceable like-type part, subassembly, or module (component or assembly) for an unserviceable counterpart.

i. Repair. The application of maintenance services or other maintenance actions to restore serviceability to an item by correcting specific damage, fault, malfunction, or failure in a part, subassembly, module (component or assembly), end item, or system.

j Overhaul. That maintenance effort (service/action) necessary to restore an item to a completely serviceable/operational condition as prescribed by maintenance standards in appropriate technical publications. Overhaul is normally the highest degree of maintenance performed by the Army. Overhaul does not normally return an item to like-new condition.

k. Rebuild. Consists of those services/actions necessary for the restoration of unserviceable equipment to a like-new condition in accordance with original manufacturing standards. Rebuild is the highest degree of material maintenance applied to Army equipment. The rebuild operation includes the act of returning to zero those age measurements (hours/miles, etc.,) considered in classifying Army equipment/components.

l. Symbols. The uppercase letter placed in the appropriate column indicates the lowest level at which that particular maintenance function is to be performed.

B–3. Explanation of Format

Purpose and use of the format are as follows:

a. Column 1, Group Number. Column 1 lists group numbers, the purpose of which is to identify components, assemblies, subassemblies, and modules with the next higher assembly.

b. Column 2, Functional Group. Column 2 lists the next higher assembly group and the noun names of components, assemblies, subassemblies and modules within the group on which maintenance is authorized.

c. Column 3, Maintenance Functions. Column 3 is divided into subcolumns to indicate the maintenance functions authorized for the components, assemblies, and subassemblies. Each maintenance function which is indicated for the entire assembly is applicable to all major components, and each function indicated for the major component is applicable to all items of the component except where the term "replace" is used. The term "replace" applies only to the assembly, component, or item beside which it appears.

d. Use of Symbols. The symbols used to indicate the five categories of maintenance authorized for Army material are as follows:

(1) C – Operator/crew.

(2) O – Organization.

(3) F – Direct support.

(4) H – General support.

(5) D – Depot.

e. Work Measurement Time. The active repair time required to perform the maintenance function will be included directly below the symbol identifying the category of maintenance. The manpower figures have been developed under conditions (real and simulated) corresponding to those that would be considered normal for TOE units operating in the field. The skill levels used to obtain measurement times approximate those found in typical TOE units. The active repair time specified is the average aggregate time to restore an item (subassembly, assembly, component, module, end item, or system) to a serviceable condition under typical field operating conditions. This time includes preparation time, fault isolation/diagnostic time, and quality assurance/quality control time in addition to the time required to perform specified maintenance functions identified for the tasks authorized in the maintenance allocation chart. This time may be the established time standard developed through maintenance engineering analysis or it may have been derived from the calculation of a statistically weighted time estimate, incorporating the optimistic, most likely, and pessimistic estimates for the work to be accomplished, using formula criteria prescribed in AR 310-3. This time is expressed in man-hours and carried to one decimal place (tenths of hours).

f. Column 4, Tools and Equipment. This column will be used to specify, by code, those tools nd test, measuring, diagnostic, and support equipment required to perform the designated function. ools and test equipment codes are specified in table B-1, as applicable.

g. Column 5, Remarks. The remarks column will list specific maintenance functions, cross-references, and instructions pertinent to the operation being performed.

Section II

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1)	(2)	(3)											(4)	(5)
		MAINTENANCE FUNCTION												
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
01	The 12-Foot-Diameter-High-Velocity Cargo Parachute													
0101	Canopy	O 0.7		O 0.3						O 0.3				
	Riser clevis								O 0.1	O 0.1				
	Gore section								F 1.0	O 0.5				
	Skirt reinforcement tape (lower lateral band)									O 0.3				
	Radial tape									O 0.3				
	Suspension line								F 0.5	O 0.3				
	Bridle loop								O 0.3	O 0.1				
	Suspension line attaching loop								F 0.3	O 0.3				
	Vent line								O 0.3	O 0.3				
	Pocket band								O 0.3	O 0.3				
	Riser								O 0.8	O 0.3				
	Parachute inspection data pocket								O 0.3	O 0.2				
	Vent reinforcement tape (upper lateral band)									O 0.3				
	Vertical tape									O 0.3				
0102	Deployment Bag	O 0.2		O 0.1					O 0.1	O 0.3				
	Attaching loop								O 0.3	O 0.2				
	Main strap								O 0.5	O 0.3				
	Suspension line retaining strap								O 0.3	O 0.3				
	Tie loop								O 0.3	O 0.3				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1)	(2)	(3)											(4)	(5)
		MAINTENANCE FUNCTION												
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Panels and flaps									O 0.5				
0103	Static Line	O 0.1		O 0.1					O 0.1	O 0.3				
	Line webbing								O 0.2	O 0.1				
	Riser clevis								O 0.1	O 0.1				
02	The G-13 24-Foot-Diameter Cargo Parachute													
0201	Canopy	O 0.6		O 0.3						O 0.5				
	Bridle line								O 0.3	O 0.1				
	Bridle-to-canopy attaching loop								F 0.3	O 0.1				
	Crown panel (center and side)								F 1.0	O 0.3				
	Gore seam reinforcement (short)								F 0.3	O 0.1				
	Gore panel								F 1.0	O 0.3				
	Panel reinforcement								F 0.3	O 0.1				
	Rat line								F 0.5	O 0.1				
	Reinforcing webbing									O 0.2				
	Skirt panel									O 0.3				
	Skirt hesitator								O 0.3	O 0.1				
	Suspension line								F 0.5	O 0.3				
	Riser assembly								O 0.5	O 0.3				
	Riser clevis								O 0.1	O 0.1				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1)	(2)	(3) MAINTENANCE FUNCTION											(4)	(5)
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Parachute inspection data pocket								O 0.1	O 0.2				
	Spreader bar								O 0.4	O 0.1				
0202	Parachute Pack	O 0.1		O 0.1					O 0.1	O 0.3				
	Edge binding									O 0.3				
	Pack closing loop								O 0.3	O 0.1				
	Pack tiedown strap loop								O 0.3	O 0.1				
	Panels and flaps									O 0.3				
	Static line retaining strap								O 0.3	O 0.1				
0203	Static Line	O 0.1		O 0.1					O 0.1	O 0.1				
	Riser clevis								O 0.1	O 0.1				
0204	Static Line Parachute Drogue	O 0.1		O 0.1					O 0.1	O 0.2				
	Attaching loop								O 0.3	O 0.2				
	Reinforcing tape									O 0.2				
03	The 26-Foot-Diameter High-Velocity Cargo Parachute													
0301	Canopy	O 0.8		O 0.3						O 0.3				
	Bridle loop								O 0.3	O 0.1				
	Vent line								O 0.4	O 0.1				
	Gore section								F 1.0	O 0.1				
	Skirt reinforcement tape (lower lateral band)									O 0.1				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310 - 3)

(1)	(2)	(3)											(4)	(5)
		MAINTENANCE FUNCTION												
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Radial tape									O 0.1				
	Suspension line								F 0.5	O 0.3				
	Suspension line attaching loop								F 0.5	O 0.1				
	Pocket band								O 0.4	O 0.1				
	Riser								O 0.5	O 0.2				
	Vent reinforcement tape									O 0.2				
	Vertical tape									O 0.2				
302	Suspension Clevis (3/4-Inch)	O 0.1		O 0.1					O 0.1	O 0.1				
303	Deployment Bag	O 0.2		O 0.1					O 0.1	O 0.2				
	Attaching loop								O 0.3	O 0.1				
	Upper end reinforcement								O 0.3	O 0.1				
	Main strap (side and center)								O 0.3	O 0.1				
	Panels and flaps									O 0.2				
	Static line retaining strap								O 0.3	O 0.1				
	Suspension line retaining strap								O 0.3	O 0.1				
	Protector flap tie loop								O 0.3	O 0.1				
	Side main strap tie loop								O 0.3	O 0.1				
0304	Static Line	O 0.1		O 0.1					O 0.3	O 0.1				
	Riser clevis								O 0.1	O 0.1				

MAINTENANCE ALLOCATION CHART FOR CARGO PARACHUTES

(AR 310-3)

(1) GROUP NO.	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	(4) TOOLS AND EQUIPMENT	(5) REMARKS
04	The G-14 34-Foot-Diameter Cargo Parachute													
0401	Canopy	O 0.8		O 0.3						O 0.4				
	Bridle loop								O 0.3	O 0.1				
	Vent line								O 0.3	O 0.2				
	Vent reinforcement (upper lateral band)									O 0.2				
	Panel (upper and lower)								O 1.2	O 0.4				
	Radial tape									O 0.4				
	Annular ring reinforcement (upper and lower)									O 0.3				
	Skirt reinforcement (lower lateral band)									O 0.3				
	Suspension line reinforcing loop (V-tab)								O 0.4	O 0.3				
	Suspension line reinforcement								O 0.4	O 0.3				
	Suspension line								O 0.8	O 0.3				
	Riser								O 0.6	O 0.3				
	Riser clevis								O 0.1	O 0.1				
	Parachute inspection data pocket								O 0.1	O 0.2				
0402	Parachute Pack	O 0.1		O 0.1					O 0.1	O 0.3				
	Edge binding									O 0.3				
	Pack closing loop								O 0.3	O 0.1				
	Pack tiedown strap loop								O 0.3	O 0.1				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1) GROUP NO	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	(4) TOOLS AND EQUIPMENT	(5) REMARKS
	Panels and flaps									O 0.3				
	Static line retaining strap								O 0.3	O 0 1				
0403	Static Line	O 0.1		O 0.1					O 0.1	O 0.1				
	Webbing and attaching loops									O 0.3				
	Riser clevis								O 0.1	O 0.1				
0404	Static Line Parachute Drogue	O 0.1		O 0.1					O 0.1	O 0.2				
	Drogue body and vanes									O 0.2				
	Attaching loop								O 0.3	O 0.2				
	Reinforcing tape									O 0.2				
05	The 38-Foot-Diameter RCAT Cargo Parachute													
0501	Bridle Line	O 0.1		O 0.1					O 0.3	O 0.1				
0502	Canopy	O 0.8		O 0.1						O 0.5				
	Gore section								F 1.0	O 0.3				
	Skirt reinforcement (lower lateral band)									O 0.2				
	Radial seam									O 0.3				
	Canopy line								F 1.0	O 0.3				
	Skirt hesitator band								O 0.3	O 0.1				
	Butterfly tab								O 0.3	O 0.1				
	Suspension line									O 0.2				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1) GROUP NO	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL/	REPLACE	REPAIR	OVERHAUL	REBUILD	(4) TOOLS AND EQUIPMENT	(5) REMARKS
	Vent line									O 0.2				
	Vent reinforcement (upper lateral band)									O 0.4				
	Suspension line strap (V-tab)								F 0.4	O 0.1				
0503	Pilot Parachute (36-Inch-Diameter)	O 0.3		O 0.1					O 0.1	O 0.3				
06	The G-12C and G-12D 64-Foot-Diameter Cargo Parachutes													
0601	Canopy	O 2.6		O 0.1						O 0.5				
	Suspension clevis (3/4-inch)								O 0.1	O 0.1				
	Gore section								F 1.0	O 0.5				
	Skirt reinforcement (lower lateral band)									O 0.5				
	Vent reinforcement (upper lateral band)									O 0.5				
	Radial seam									O 0.3				
	Canopy line								F 1.0	O 0.3				
	Bridle loop								O 0.3	O 0.3				
	Hesitator tab (G-12C)								O 0.3	O 0.3				
	Parachute inspection data pocket								O 0.1	O 0.1				
	Pocket band								O 0.3	O 0.2				
	Radial seam reinforcement tape								F 0.3	O 0.2				
	Riser								O 0.1	O 0.3				
	Skirt hesitator (G-12C)								O 0.3	O 0.1				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310 - 3)

(1)	(2)	(3)											(4)	(5)
		MAINTENANCE FUNCTION												
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Suspension line reinforcement (V-tab)								F 0.3	O 0.2				
0602	G-12D Deployment Bag	O 0.3		O 0.1					O 0.1	O 0.3				
	Bridle breakcord attaching loop buffer								O 0.3	O 0.2				
	Bag closing loop								O 0.4	O 0.2				
	Bridle strap									O 0.3				
	Edge binding									O 0.3				
	Horizontal strap									O 0.3				
	Panels, flaps, and cover									O 0.4				
	Locking stow loop								O 0.4	O 0.4				
	Locking stow slot reinforcement									O 0.4				
	Suspension line retaining strap and strap loops								O 0.4	O 0.4				
	Suspension line retaining strap reinforcement									O 0.4				
	Cluster tie webbing								O 0.4	O 0.3				
	Riser extension tie loop								O 0.4	O 0.3				
	Riser extension tie strap								O 0.4	O 0.3				
	Riser extension cover end reinforcement									O 0.4				
	Vent line hole reinforcement									O 0.4				
0603	Deployment Line (111-Inch-Long)	O 0.1		O 0.1					O 0.1	O 0.3				
0604	G-12C Pack	O 0.3		O 0.1					O 0.1	O 0.4				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1) GROUP NO	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	(4) TOOLS AND EQUIPMENT	(5) REMARKS
0605	Pilot Parachute (68-Inch-Diameter)	O 0.1		O 0.1					O 0.1	O 0.3				
	Parachute connector link assembly								O 0.1	O 0.1				
	Canopy panel									O 0.3				
	Crown inside reinforcement tape								O 0.4	O 0.4				
	Canopy reinforcing tape									O 0.4				
	Skirt reinforcement webbing (lower lateral band)									O 0.4				
	Suspension line reinforcing tape								O 0.4	O 0.3				
	Suspension line								O 0.4	O 0.4				
0605	Static Line (15-Foot-Long)	O 0.1		O 0.1					O 0.1	O 0.3				
	Edge binding									O 0.2				
	Bag panel									O 0.2				
	Riser clevis								O 0.1	O 0.1				
	Bridle line								O 0.3	O 0.1				
	Bridle webbing									O 0.2				
	Tiedown loop								O 0.3	O 0.1				
07	The G-11A 100-Foot-Diameter Cargo Parachute													
0701	Canopy	O 3.4		O 1.0						O 1.0				
	Reefing line cutter bracket								O 0.3	O 0.3				
	Gore panel								F 1.0	O 0.5				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310 - 3)

(1)	(2)	(3) MAINTENANCE FUNCTION											(4)	(5)
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Vent and skirt bands (upper and lower lateral bands)									O 0.5				
	Canopy line								F 1.0	O 0.7				
	Suspension line								F 0.5	O 0.2				
	Radial line								F 0.5					
	Vent line								O 0.5	O 0.2				
	Parachute connector link assembly								O 0.1	O 0.1				
	Attaching loop (bridle loop)								O 0.3	O 0.2				
	Parachute inspection data pocket								O 0.1	O 0.1				
	Pocket band								O 0.3	O 0.3				
	Cutter bracket panel reinforcement								O 0.5	O 0.3				
	Radial line reinforcement tape								F 0.8	O 0.5				
	Radial seam									O 0.4				
	Reefing ring and reefing ring retainer								O 0.3	O 0.1				
0702	Suspension riser								O 0.1	O 0.3				
0703	V-tab								F 0.4	O 0.3				
	Deployment Bag Bridle	O 0.3		O 0.1					O 0.1	O 0.4				
	Deployment Bag	O 0.3		O 0.1					O 0.1	O 0.4				
	Panels and flaps									O 0.4				
	Edge binding									O 0.3				
	Grommet								O 0.3	O 0.2				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1)	(2)	(3) MAINTENANCE FUNCTION											(4)	(5)
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Locking stow loop								O 0.4	O 0.3				
	Locking loop protector sleeve								O 0.4	O 0.3				
08	The 15-Foot-Diameter Cargo Extraction Parachute													
0801	Canopy	O 0.7		O 1.0						O 0.4				
	Gore panel								F 0.8	O 0.4				
	Panel edge reinforcement									O 0.4				
	Bridle centering line								F 0.5	O 0.3				
	Suspension line								F 0.6	O 0.3				
	Vent line								F 0.5	O 0.3				
	Parachute connector link assembly								O 0.1	O 0.1				
	Attachment loop (bridle loop)								O 0.3	O 0.2				
	Suspension line attaching loop								F 0.5	O 0.3				
	Pocket band								O 0.4	O 0.3				
	Lateral band (upper or lower)									O 0.5				
	Radial webbing									O 0.3				
0802	Deployment Bag	O 0.3		O 0.1					O 0.1	O 0.4				
	Grommet								O 0.2	O 0.1				
	Retainer band keeper								O 0.4	O 0.2				
	V-ring and V-ring keeper								O 0.5	O 0.2				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310 - 3)

(1)	(2)	(3)											(4)	(5)
		MAINTENANCE FUNCTION												
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Bent V-ring and V-ring keeper								O 0.5	O 0.2				
	Bag retaining line								O 0.5	O 0.2				
	Bridle loop strap								O 0.5	O 0.2				
	Bag closing loop (top or bottom)								O 0.4	O 0.2				
	Parachute inspection data pocket								O 0.2	O 0.1				
	End slot reinforcement								O 0.3	O 0.1				
	Retainer band keeper reinforcement								O 0.3	O 0.2				
	Tie loop reinforcement								O 0.3	O 0.2				
	Safety cord								O 0.4	O 0.2				
	Tie loop								O 0.3	O 0.2				
	Edge binding									O 0.3				
	Suspension line stowage flap									O 0.4				
	Stowage flap edge reinforcement									O 0.4				
	Main strap									O 0.5				
	Bag panels									O 0.4				
0803	Extraction Line (60-Foot-Long)	O 0.3		O 0.1					O 0.3	O 0.2				
	Line webbing									O 0.4				
	Connector link attaching loop buffer								O 0.1	O 0.1				
	Load attaching loop buffer								O 0.1	O 0.1				

MAINTENANCE ALLOCATION CHART FOR CARGO PARACHUTES

(AR 310 - 3)

(1) GROUP NO	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION											(4) TOOLS AND EQUIPMENT	(5) REMARKS
		INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD		
	Release knife loop buffer								O 0.1	O 0.1				
	Release knife									O 0.1				
0804	The 9 1/2-Inch-Long Adapter Web	O 0.1		O 0.1					O 0.3	O 0.1				
	Web body									O 0.1				
	End loop buffer (1 1/2 inch-long)								O 0.3	O 0.1				
0805	Reefing Lines (148- and 260-Inch-Long)	O 0.1		O 0.1					O 1.0	O 0.3				
	Line body									O 0.3				
	Retaining loop								O 0.3	O 0.2				
	Grommet								O 0.2	O 0.1				
0806	The 36-Inch-Long Extraction Parachute Adapter Web	O 0.1		O 0.1					O 0.1	O 0.1				
	Long Buffer								O 0.1	O 0.1				
	Short Buffer								O 0.1	O 0.1				
	Webbing Length									O 0.1				
09	The 22-Foot-Diameter Cargo Extraction Parachute													
0901	Canopy	O 0.8		O 1.0						O 0.4				
	Gore panel								F 0.8	O 0.4				
	Panel edge reinforcement									O 0.8				
	Bridle centering line								F 0.5	O 0.3				
	Suspension line								F 0.6	O 0.3				
	Vent line								F 0.5	O 0.3				

MAINTENANCE ALLOCATION CHART FOR CARGO PARACHUTES

(AR 310-3)

(1)	(2)	(3)											(4)	(5)
		MAINTENANCE FUNCTION												
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Parachute connector link assembly								O 0.1	O 0.1				
	Attachment loop (bridle loop)								O 0.3	O 0.2				
	Suspension line attaching loop								F 0.5	O 0.3				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1) GROUP NO	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	(4) TOOLS AND EQUIPMENT	(5) REMARKS
	Pocket band								O 0.4	O 0.3				
	Vent reinforcement (upper lateral band)									O 0.3				
	Skirt reinforcement (lower lateral band)									O 0.5				
	Radial tape									O 0.4				
0902	Deployment Bag	O 0.3		O 0.1					O 0.1	O 0.4				
	Grommet								O 0.2	O 0.1				
	Retainer band keeper								O 0.4	O 0.2				
	V-ring and V-ring keeper								O 0.5	O 0.2				
	Bent V-ring and V-ring keeper								O 0.5	O 0.2				
	Bag retaining line								O 0.5	O 0.2				
	Bridle loop strap								O 0.5	O 0.2				
	Bag closing loop (top or bottom)								O 0.4	O 0.2				
	Parachute inspection data pocket								O 0.2	O 0.1				
	End slot reinforcement								O 0.3	O 0.1				
	Retainer band keeper reinforcement								O 0.3	O 0.2				
	Tie loop reinforcement								O 0.3	O 0.2				
	Safety cord								O 0.4	O 0.2				
	Tie loop								O 0.3	O 0.2				
	Bag end reinforcement									O 0.4				

MAINTENANCE ALLOCATION CHART FOR CARGO PARACHUTES

(AR 310-3)

(1) GROUP NO	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	(4) TOOLS AND EQUIPMENT	(5) REMARKS
	Main strap									O 0.5				
	Bag panels									O 0.4				
	Suspension line stowage flap									O 0.4				
	Stowage flap edge reinforcement									O 0.4				
	Edge binding									O 0.3				
0903	Extraction Line (60-Foot-Long)	O 0.3		O 0.1					O 0.3	O 0.2				
	Line webbing									O 0.4				
	Release knife loop buffer								O 0.1	O 0.1				
	Release knife									O 0.1				
	End loop buffer								O 0.1	O 0.1				
0904	Type IV Quick Release Link Assembly	O 0.1		O 0.1					O 0.1	O 0.1				
0905	Adapter Web (5-Foot-Long)	O 0.1		O 0.1					O 0.1	O 0.1				
	Web body									O 0.1				
	Long buffer								O 0.1	O 0.1				
10	The 28-Foot-Diameter Cargo Extraction Parachute													
1001	Canopy	O 0.8		O 1.0						O 0.4				
	Canopy section								F 0.8	O 0.4				
	Suspension line keeper								O 0.4	O 0.3				
	Bridle centering line								F 0.5	O 0.3				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1)	(2)	(3)											(4)	(5)
GROUP NO	FUNCTIONAL GROUP	MAINTENANCE FUNCTION INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Suspension line								F 0.6	O 0.3				
	Vent line								F 0.5	O 0.3				
	Parachute connector link assembly								O 0.1	O 0.1				
	Vent loop (bridle loop)								O 0.3	O 0.2				
	Suspension line attaching loop								F 0.5	O 0.3				
	Pocket band								O 0.4	O 0.3				
	Vent reinforcement (upper lateral band)									O 0.3				
	Radial tape									O 0.4				
	Vertical tape									O 0.4				
	Edge reinforcement band									O 0.4				
1002	Deployment Bag	O 0.3		O 0.1					O 0.1	O 0.4				
	Grommet								O 0.2	O 0.1				
	Retainer band keeper								O 0.4	O 0.2				
	V-ring and V-ring keeper								O 0.5	O 0.2				
	Bent V-ring and V-ring keeper								O 0.5	O 0.2				
	Bag retaining line								O 0.5	O 0.2				
	Bridle loop strap								O 0.5	O 0.2				
	Bag closing loop (top or bottom)								O 0.4	O 0.2				
	Parachute inspection data pocket								O 0.2	O 0.1				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310 - 3)

(1)	(2)	(3)											(4)	(5)
		MAINTENANCE FUNCTION												
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	End slot reinforcement								O 0.3	O 0.1				
	Retainer band keeper reinforcement								O 0.3	O 0.2				
	Tie loop reinforcement								O 0.3	O 0.2				
	Safety cord								O 0.4	O 0.2				
	Tie loop								O 0.3	O 0.2				
	Bag end reinforcement									O 0.4				
	Main strap									O 0.5				
	Bag panels									O 0.4				
	Suspension line stowage flap									O 0.4				
	Stowage flap edge reinforcement									O 0.4				
	Edge binding									O 0.3				
1003	Extraction Line (60-Foot-Long)	O 0.3		O 0.1					O 0.3	O 0.2				
	Line webbing									O 0.4				
	Release knife loop buffer								O 0.1	O 0.1				
	Release knife									O 0.1				
	End loop buffer								O 0.1	O 0.1				
1004	Type IV Quick Release Link Assembly	O 0.1		O 0.1					O 0.1	O 0.1				
1005	Adapter Web (9-Foot-Long)	O 0.1		O 0.1					O 0.1	O 0.1				
	Web body									O 0.1				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AR 310-3)

(1)	(2)	(3) MAINTENANCE FUNCTION											(4)	(5)
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Long buffer								O 0.1	O 0.1				
11	The 3-Foot-Square Pilot Parachute													
1101	Deployment Weight Bridle Line	O 0.1		O 0.1						O 0.3				
	Line webbing									O 0.3				
	Pack Locking Loop								O 0.3	O 0.1				
1102	Retaining Line (235 1/2-Inch-Long)	O 0.2		O 0.1						O 0.3				
	Line webbing									O 0.3				
	Buffer								O 0.1	O 0.1				
103	Pilot Parachute Pack	O 0.2		O 0.1						O 0.3				
	Panels and pocket									O 0.1				
	Edge binding									O 0.1				
	Pack releasing cone								O 0.3	O 0.3				
	Tiedown cord								O 0.1	O 0.1				
	Grommet								O 0.2	O 0.1				
	Pack closing loop								O 0.1	O 0.1				
1104	Canopy	O 0.1		O 0.3						O 0.3				
	Canopy panel									O 0.3				
	Suspension line									O 0.2				
1105	Deployment Weight	O 0.2		O 0.1						O 0.3				

MAINTENANCE ALLOCATION CHART FOR CARGO PARACHUTES

(AVSCOM Reg 310-10)

(1)	(2)	(3) MAINTENANCE FUNCTION											(4)	(5)
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	THE 28-FOOT-DIAMETER CARGO EXTRACTION PARACHUTE								0 .1					
	Canopy	0 1.		0 1.					0 .1	0 .4				
	Canopy section								F .5	0 .3				
	Bridle centering line								F .3	0 .1				
	Suspension line								F .8	0 .1				
	Vent line								F .4	0 .1				
	Connector link								0 .1	0 .1				
	Vent loop								0 .1	0 .1				
	Suspension line attaching loop								F .4	0 .1				
	Pocket band								0 .3	0 .1				
	Radial tape									0 .4				
	Section reinforcement band									0 .4				
	Skirt reinforcement band (lower lateral band)									0 .3				
	Vent reinforcement band (upper lateral band)									0 .3				

MAINTENANCE ALLOCATION CHART
FOR
CARGO PARACHUTES

(AVSCOM Reg 310-10)

(1)	(2)	(3)											(4)	(5)
		MAINTENANCE FUNCTION												
GROUP NO	FUNCTIONAL GROUP	INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	TOOLS AND EQUIPMENT	REMARKS
	Vertical tape									0 .3				
	Deployment Bag	0 .1		0 .1					0 .1	0 .1				
	Bag bridle strap								0 .3	0 .1				
	Grommet								0 .1	0 .1				
	Retainer band keeper								0 .4	0 .3				
	V-ring and v-ring keeper								0 .3	0 .1				
	Bent V-ring and bent V-ring keeper								0 .3	0 .1				
	Bag closing loop								0 .4	0 .1				
	Parachute inspection data pocket								0 .3	0 .4				
	End slot reinforcement								0 .7	0 .1				
	Retainer band keeper reinforcement								0 .3	0 .1				
	Tie loop reinforcement								0 .3	0 .1				
	Tie loop								0 .3	0 .1				
	Edge binding									0 .1				
	Main strap									0 .3				

MAINTENANCE ALLOCATION CHART FOR CARGO PARACHUTES

(AR 310-3)

(1) GROUP NO	(2) FUNCTIONAL GROUP	(3) MAINTENANCE FUNCTION INSPECT	TEST	SERVICE	ADJUST	ALIGN	CALIBRATE	INSTALL	REPLACE	REPAIR	OVERHAUL	REBUILD	(4) TOOLS AND EQUIPMENT	(5) REMARKS
	Panels and Flaps									0 .4				
	Stowage Flap Edge Reinforcement									0 .3				
	Safety Line								0 .1	0 .1				
	THE 106-INCH-LONG ADAPTER WEB	0 .1		0 .1					0 .1	0 .1				
	Long Buffer								0 .1	0 .1				
	Short Buffer								0 .1	0 .1				
	Fixed Keeper								0 .3	0 .1				
	Webbing Length									0 .1				
	THE 60 FOOT EXTRACTION LINE								0 .1	0 .2				
	EXTRACTION LINE BAG ASSEMBLY	0 0.1		0 0.1					0 0.1	0 0.1				
	Panel								0 0.1	0 0.5				
	Grommet								0 0.1	0 0.1				
	EXTRACTION LINE DEPLOYMENT BAG BRIDLE	0 0.1		0 0.1					0 0.1	0 0.1				
	PARACHUTE CONNECTOR LINK	0 0.1		0 0.1					0 0.1	0 0.1				
	Drogue Line	0 0.1		0 0.1					0 0.1	0 0.1				

APPENDIX C

REPAIR PARTS AND SPECIAL TOOLS LIST

(Current as of 12 April 1973)

Section I. INTRODUCTION

C–1. Scope

This appendix lists repair parts, special tools, and bulk materials required for performance of organization and direct support of Cargo Parachutes.

C–2. General

This Repair Parts and Special Tools List is divided into the following section:

a. Repair Parts List – Section II. A list of repair parts authorized at the organizational and direct support levels for the performance of maintenance. Parts lists are composed of functional groups in ascending numerical sequence with the parts in each group reflecting a figure number.

b. Special Tools List – Section III. A list of special tools authorized for the performance of maintenance at the organizational and direct support levels.

c. Federal Stock Number and Reference Number Index – Section IV. A list, in ascending numerical sequence, of all federal stock numbers appearing in the listings, followed by a list, in alphamerical seouence, of all reference numbers appearing in the listings. Federal stock numbers and reference numbers are cross-referenced to each illustration figure number.

C–3. Explanation of Columns

The following provides an explanation of columns found in the tabular listings:

a. Source, Maintenance, and Recoverability Codes (SMR).

(1) *Source Code.* Source Codes are assigned to support items to indicate the manner of acquiring support items for maintenance, repair, or overhaul of end items. Source codes are entered in the first and second position of the Uniform SMR Code Format as follows:

Code	Definition
PA	Item procured and stocked for anticipated or known usage.
PB	Item procured and stocked for insurance purposes because essentiality dictates that a minimum quantity be available in the supply system.
MO	Item to be manufactured or fabricated at organizational level.
MF	Item to be manufactured or fabricated at the direct support maintenance level.

Code	Definition
XA	Item is not procured or stocked because the requirements for the item will result in the replacement of the next higher assembly.
XB	Item is not procured or stocked. If not available through salvage, requisition.

NOTE: Cannibalization or salvage may be used as a source of supply for any items source coded above except those coded XA and aircraft support items as restricted by AR 700-42.

(2) *Maintenance Code.* Maintenance codes are assigned to indicate the levels of maintenance authorized to USE and REPAIR support items. The maintenance codes are entered in the third positions of the Uniform SMR Code Format as follows:

(a) USE (THIRD POSITION): The maintenance code entered in the third position will indicate the lowest maintenance level authorized to remove, replace, and use the support item. The maintenance code entered in the third position will indicate one of the following levels of maintenance:

Code	Application/Explanation
O	Support item is removed, replaced, used at the organizational level.
F	Support item is removed, replaced, used at the direct support level.

(b) REPAIR (FOURTH POSITION): The maintenance code entered in the fourth position indicates whether the item is to be repaired and identifies the lowest maintenance level with the capability to perform complete repair (i.e., all authorized maintenance functions). This position wil contain one of the following maintenance codes:

Code	Application/Explanation
O	The lowest maintenance level capable of complete repair of the support item is the organizational level.
Z	Nonreparable. No repair is authorized.

(3) *Recoverability Code.* Recoverability Codes are assigned to support items to indicate the disposition action on unserviceable items. The recoverability code is entered in the fifth position of the Uniform SMR Code format as follows:

Code	Definition
Z	Nonreparable item. When unserviceable, condemn and dispose at the level indicated in position 3.

b. Federal Stock Number. Indicates the federal stock number assigned to the item and will be used for requisitioning purposes.

c. Description. Indicates the federal item name and a minimum description required to identify the item. This column also contains the following subcolumns:

(1) *Reference Number and Manufacturer's Code.* Indicates the part number or other reference number for the listed item followed by the applicable five-digit federal supply code for manufacturers (FSCM), in parentheses. The FSCM is used as an element in item identification to designate manufacturer or distributor or Government agency, etc., and is identified in SB 708-42.

(2) *Usable on Code.* Not applicable.

d. Unit of Measure (U/M). Indicates the standard of basic quantity of the listed item as used in performing the actual maintenance function. This measure is expressed by a 2-character alphabetical abbreviation (e.g., EA, IN, PR). When the unit of measure differs from the unit of issue, the lowest unit of issue that will satisfy the required units of measure will be requisitioned.

e. Quantity Incorporated in Unit. Indicates the quantity of the item required for one assembly, including instances when similar assemblies are broken down together. A "V" appearing in this column in lieu of a quantity indicates that no specific quantity is applicable.

f. Fifteen-Day Organizational and Thirty-Day Direct Support Maintenance Allowances. Indicates the items identified with an asterisk (*) within these columns will be requisitioned initially on an "as required" basis for the maintenance mission at organizational and direct support levels. Requirements for repair parts stockage and for distribution to support units will be based on demand data.

g. One-Year Allowances Per 100 Equipments/Contingency Planning Purposes. Not applicable.

h. Illustration. Indicates the figure number of the illustration in which the item is shown. Illustrations appear in the narrative portion of this manual.

C–4. Special Information

Detailed manufacture instructions for items source coded to be manufactured or fabricated are found in the narrative portion of this manual. Bulk materials required to manufacture items are listed in the Bulk Materials Group 12 of this appendix. The Federal Stock Number and Reference Number Index will reflect the word BULK in the figure number column.

C–5. How to Locate Repair Parts

a. When Federal Stock Number or Reference Number is Unknown:

(1) *First.* Find the exploded view illustration of the assembly or subassembly to which the repair part belongs.

(2) *Second.* Identify the repair part on the illustration and note the illustration figure number of the repair part.

(3) *Third.* Using the Repair Parts Listing, find the figure number listed in the illustration column.

b. When Federal Stock Number or Reference Number is Known:

(1) *First.* Using the Index of Federal Stock Numbers and Reference Numbers, find the pertinent federal stock number or reference number. This index is in ascending FSN sequence followed by a list of reference numbers in ascending alphamerical sequence, cross-referenced to the illustration figure number.

(2) *Second.* Using the Repair Parts Listing, find the figure number listed in the illustration column referenced in the Index of Federal Stock Numbers and Reference Numbers.

C–6. Abbreviations

Not applicable.

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE	DESCRIPTION	USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW 1-5	15-DAY ORG MAINT ALW 6-20	15-DAY ORG MAINT ALW 21-50	15-DAY ORG MAINT ALW 51-100	30-DAY DS MAINT ALW 1-20	30-DAY DS MAINT ALW 21-50	30-DAY DS MAINT ALW 51-100	1-YR ALW PER 100 EQP CNTY	ILLUSTRATION Fig. No.
			SECTION II REPAIR PARTS LIST												
			GROUP 01 12 FOOT CARGO PARACHUTE (HV)												
	1670-788-8666	11-1-216 (81337)	PARACHUTE,CARGO-12 FT DIA,HIGH VELOCITY...........												1-1
XA---		11-1-217 (81337)	.CANOPY,CARGO PARACHUTE..........			1									1-1
PBOOZ	1670-678-8560	MS70086-1 (96906)	..CLEVIS,RISER,AIR DELIVERY..........		EA	2	*	*	*	*	*	*	*		3-1
MOOZZ			...PIN,SAFETY..........			2									3-2
MOOZZ			...CORD,CLEVIS,PIN RETAINING..........			2									3-1
MFFOZ			..GORE SECTION,CANOPY..........			42									3-3
MFFZZ			..LINE,SUSPENSION..........			14									3-6
MOOZZ			..LOOP,BRIDLE,CANOPY..........			1									3-7
MOOZZ			..LINE,VENT..........			7									3-9
MFFZZ			..LOOP,ATTACHING,SUSPENSION LINE..........			14									3-8
MOOZZ			..POCKET BAND..........			14									3-10
MOOZZ		11-1-508 (81337)	..RISER,CARGO PARACHUTE..........			2									3-11
PBOZZ	1670-308-4221	54C6335 (98750)	...POCKET,PARACHUTE INSPECTION DATA..........		EA	1	*	*	*	*	*	*	*		3-11
MOOZZ			....LOOP,TIE CORD..........			1									3-11
MOOZZ			....TIE CORD..........			1									3-11
XBOOZ		11-1-218 (81337)	.DEPLOYMENT BAG,PARACHUTE..........		EA	1									1-1
MOOZZ			..LOOP,ATTACHING,DEPLOYMENT BAG..........			1									3-13
MOOZZ			..STRAP,MAIN,DEPLOYMENT BAG..........			1									3-14
MOOZZ			..STRAP,RETAINING,STOW LOOP..........			1									3-14
MOOZZ			..TIE LOOP,DEPLOYMENT BAG..........			5									3-14
MOOZZ		11-1-219 (81337)	.STATIC LINE,CARGO PARACHUTE..........			1									3-15
PBOOZ	1670-678-8560	MS70086-1 (96906)	..CLEVIS,RISER,AIR DELIVERY..........		EA	1	*	*	*	*	*	*	*		3-1
MOOZZ			...PIN,SAFETY..........			1									3-2
MOOZZ			...CORD,CLEVIS,PIN RETAINING..........			1									3-1
			GROUP 02 24 FOOT CARGO PARACHUTE (G-13)												
	1670-984-3535	51B7280-5 (98750)	PARACHUTE,CARGO-24 FT DIA,G-13..........												1-3
XA---		51J7069 (98750)	.CANOPY,CARGO PARACHUTE..........			1									1-3
MOOZZ			..BRIDLE LINE,CANOPY..........			2									3-16
MFFZZ			..LOOP,ATTACHING,BRIDLE TO CANOPY..........			4									3-17
MFFZZ			..CROWN PANEL,CENTER AND SIDE..........			3									3-19
MFFZZ			..REINFORCEMENT,GORE SEAM,SHORT..........			40									3-20
MFFZZ			..GORE PANEL,CANOPY..........			100									3-21
MFFZZ			..REINFORCEMENT,PANEL..........			40									3-24
MFFZZ			..LINE,RAT..........			20									3-25
MOOZZ			..SKIRT HESITATOR..........			1									3-26

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE	DESCRIPTION	USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW 1-5	15-DAY ORG MAINT ALW 6-20	15-DAY ORG MAINT ALW 21-50	15-DAY ORG MAINT ALW 51-100	30-DAY DS MAINT ALW 1-20	30-DAY DS MAINT ALW 21-50	30-DAY DS MAINT ALW 51-100	1-YR ALW PER 100 EQP CNTR	ILLUSTRATION Fig. No.
			GROUP 02 (CONTINUED)												
MFFZZ			..LINE,SUSPENSION			10									3-27
MOOZZ		51C7071 (98750)	..RISER ASSEMBLY,PARACHUTE			1									3-30
PBOOZ	1670-678-8560	MS70086-1 (96906)	...CLEVIS,RISER,AIR DELIVERY		EA	2	*	*	*	*	*	*	*		3-1
MOOZZ			....PIN,SAFETY			2									3-2
MOOZZ			....CORD,CLEVIS,PIN RETAINING			2									3-1
PBOZZ	1670-308-4221	54C6335 (98750)	...POCKET,PARACHUTE INSPECTION DATA		EA	1	*	*	*	*	*	*	*		3-30
MOOZZ			....LOOP,TIE CORD			1									3-30
MOOZZ			....TIE CORD			1									3-30
MOOZZ			...SPREADER BAR,RISER			1									3-29
PBOZZ	1670-251-6601	51D6553 (98750)	.PACK,CARGO PARACHUTE		EA	1	*	*	*	*	*	*	*		1-4
MOOZZ			..LOOP,PACK CLOSING			4									3-32
MOOZZ			..LOOP,PACK TIE-DOWN STRAP			4									3-33
MOOZZ			..STRAP,PACK TIE-DOWN			4									3-34
MOOZZ			..STRAP,STATIC LINE RETAINING			2									3-35
PAOZZ	1670-611-4347	51C6166 (98750)	.STATIC LINE,CARGO PARACHUTE		EA	1	*	*	*	*	*	*	*		1-4
PBOOZ	1670-678-8560	MS70086-1 (96906)	..CLEVIS,RISER,AIR DELIVERY		EA	1	*	*	*	*	*	*	*		3-1
MOOZZ			...PIN,SAFETY			1									3-2
MOOZZ			...CORD,CLEVIS,PIN RETAINING			1									3-1
PBOOZ	1670-611-5507	61D2459 (98750)	DROGUE,PARACHUTE STATIC LINE		EA	1	*	*	*	*	*	*	*		1-4
MOOZZ			.LOOP,ATTACHING,DROGUE			1									3-36
			GROUP 03 26 FOOT CARGO PARACHUTE (HV)												
	1670-872-6109	11-1-555 (91337)	PARACHUTE,CARGO-26 FT DIA,HIGH VELOCITY												1-2
XA---		11-1-556 (81337)	.CANOPY,CARGO PARACHUTE			1									1-2
MFFZZ			..LOOP,BRIDLE,CANOPY			1									3-37
MOOZZ			..LINE,VENT			13									3-9
MFFOZ			..GORE SECTION,CANOPY			208									3-3
MFFZZ			..LINE,SUSPENSION			26									3-38
MFFZZ			..LOOP,SUSPENSION LINE ATTACHING			26									3-8
MOOZZ			..POCKET BAND			26									3-10
MOOZZ		11-1-559 (81337)	..RISER,CARGO PARACHUTE			1									2-40
PACZZ	1670-678-8562	MS70087-2 (96906)	.CLEVIS,SUSPENSION,AIR DELIVERY-3/4 IN.SIZE		EA	1	*	*	*	*	*	*	*		1-2
PAOZZ	5310-842-1190	MS35691-61 (96906)	..NUT,PLAIN,HEXAGON		EA	1	*	*	*	*	*	*	*		1-2
FAOZZ	5305-940-8069	MS90727-197 (96906)	..SCREW,CAP,HEXAGON HEAD		EA	1	*	*	*	*	*	*	*		1-2
XPOOZ		11-1-561 (81337	.DEPLOYMENT BAG,PARACHUTE		EA	1									2-35
MOOZZ			..LOOP,ATTACHING,DEPLOYMENT BAG			1									3-13
MOUZZ			..REINFORCEMENT,UPPER END,DEPLOYMENT BAG			1									3-41
MOOZZ			..RETAINING STRAP,STATIC LINE			2									2-34

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE	DESCRIPTION	USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW				30-DAY DS MAINT ALW			1-YR ALW PER 100 EQP CNTY	ILLUSTRATION Fig. No.
							1-5	6-20	21-50	51-100	1-20	21-50	51-100		
			GROUP 03 (CONTINUED)												
MOOZZ			..STRAP,MAIN,DEPLOYMENT BAG			2									3-43
MOOZZ			..STRAP,RETAINING,SUSPENSION LINE			2									3-45
MOOZZ			..TIE LOOP,PROTECTOR FLAP			4									3-46
MOOZZ			..TIE LOOP,SIDE MAIN STRAP			2									3-44
MOOZZ		11-1-219 (81337)	.STATIC LINE,CARGO PARACHUTE			1									3-15
PBOOZ	1670-678-8560	MS70086-1 (96906)	..CLEVIS,RISER,AIR DELIVERY		EA	1	*	*	*	*	*	*	*		3-1
MOOZZ			...PIN,SAFETY			1									3-2
MOOZZ			...CORD,CLEVIS RETAINING PIN			1									3-1
			GROUP 04 34 FOOT CARGO PARACHUTE (G-14)												
	1670-999-2658	11-1-578 (81337)	PARACHUTE,CARGO-34 FT DIA,G-14												1-5
XA---		11-1-579 (81337)	.CANOPY,CARGO PARACHUTE			1									1-5
MOOZZ			..LOOP,BRIDLE,CANOPY			1									3-47
MOOZZ			..LINE,VENT			16									3-48
MOOZZ			..PANEL,UPPER			32									3-51
MOOZZ			..PANEL,LOWER			32									3-51
MOOZZ			..REINFORCING LOOP,SUSPENSION LINE			32									3-52
MOOZZ			..REINFORCEMENT,SUSPENSION LINE			32									3-53
MOOZZ			..LINE,SUSPENSION			32									3-54
MOOOZ		11-1-581 (81337)	..RISER ASSEMBLY,PARACHUTE			1									3-55
PBOOZ	1670-678-8560	MS70086-1 (96906)	...CLEVIS,RISER,AIR DELIVERY		EA	2	*	*	*	*	*	*	*		3-1
MOOZZ			....PIN,SAFETY			2									3-2
MOOZZ			....CORD,CLEVIS,PIN RETAINING			2									3-1
PBOOZ	1670-308-4221	54C6335 (98750)	...POCKET,PARACHUTE INSPECTION DATA		EA	1	*	*	*	*	*	*	*		3-55
MOOZZ			....LOOP,TIE CORD			1									3-55
MOOZZ			....TIE CORD			1									3-55
PBOOZ	1670-251-6601	51D6553 (98750)	.PACK,CARGO PARACHUTE		EA	1	*	*	*	*	*	*	*		1-6
MOOZZ			..LOOP,PACK CLOSING			4									3-32
MOOZZ			..LOOP,PACK TIE-DOWN STRAP			4									3-33
MOOZZ			..STRAP,PACK TIE-DOWN			4									3-34
MOOZZ			..STRAP,STATIC LINE RETAINING			2									3-35
PAOZZ	1670-611-4347	51C6166 (98750)	.STATIC LINE,CARGO PARACHUTE		EA	1	*	*	*	*	*	*	*		1-6
PBOOZ	1670-678-8560	MS70086-1 (96906)	..CLEVIS,RISER,AIR DELIVERY		EA	1	*	*	*	*	*	*	*		3-1
MOOZZ			...PIN,SAFETY			1									3-2
MOOZZ			...CORD,CLEVIS,PIN RETAINING			1									3-1
PBOOZ	1670-611-5507	61D2459 (98750)	DROGUE,PARACHUTE STATIC LINE		EA	1	*	*	*	*	*	*	*		1-6
MOOZZ			.LOOP,ATTACHING,DROGUE			1									3-36

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE	DESCRIPTION	USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW 1-5	6-20	21-50	51-100	30-DAY DS MAINT ALW 1-20	21-50	51-100	1-YR ALW PER 100 EQP CNTY	ILLUSTRATION Fig. No.
			GROUP 05 38 FOOT CARGO PARACHUTE(RCAT)												
	1670-293-9331	61K2266 (98750)	PARACHUTE,CARGO-38 FT DIA,RADIO CONTROLLED AERIAL.. TARGET RECOVERY												1-7
MOOZZ		61B2273 (98750)	.BAG,PARACHUTE PACK			1									1-8
MOOZZ		61K2266-9 (98750)	.LINE,BRIDLE			1									3-60
XA---		61K2266-1 (98750)	.CANOPY,CARGO PARACHUTE			1									1-7
MFFOZ		61K2266-2 (98750)	..GORE SECTION,CANOPY			190									2-85
MFFZZ			..LINE,CANOPY			19									1-7
MOOZZ		61K2266-8 (98750)	..BAND,SKIRT HESITATOR			1									3-61
MOOZZ		61K2266-7 (98750)	..TAB,BUTTERFLY			1									3-63
PBOZZ	1670-360-0466	MS22046-3 (96906)	..RING,DEE,PARACHUTE		EA	2	*	*	*	*	*	*	*		2-97
MFFZZ		61K2266-6 (98750)	..STRAP,SUSPENSION LINE		EA	38									3-65
PACZZ	1670-293-9330	61K2267 (98750)	.PILOT PARACHUTE-36 IN.DIA		EA	1	*	*	*	*	*	*	*		1-7
			GROUP 06 64 FOOT CARGO PARACHUTE(G-12C & G12D)												
	1670-272-8955	51A6268 (98750)	PARACHUTE,CARGO-64 FT DIA,G-12C												1-9
	1670-893-2371	55A6045 (98750)	PARACHUTE,CARGO-64 FT DIA,G-12D												1-9
XA---		48K6076 (98750)	.CANOPY,CARGO PARACHUTE			1									1-9
PAOZZ	1670-678-8562	MS70087-2 (96906)	..CLEVIS,SUSPENSION,AIR DELIVERY-3/4 IN.SIZE		EA	1	*	*	*	*	*	*	*		2-125
PAOZZ	5310-842-1190	MS35691-61 (96906)	...NUT,PLAIN,HEXAGON		EA	1	*	*	*	*	*	*	*		2-125
PAOZZ	5305-940-8069	MS90727-197 (96906)	...SCREW,CAP,HEXAGON HEAD		EA	1	*	*	*	*	*	*	*		2-125
MFFZZ			..GORE SECTION,CANOPY			512									2-103
MFFZZ			..LINE,CANOPY			32									1-9
MOOZZ			..LOOP,BRIDLE			1									3-66
MOOZZ			..TAB,HESITATOR-U/O G-12C ONLY			1									3-67
PBOZZ	1670-308-4221	54C6335 (98750)	..POCKET,PARACHUTE INSPECTION DATA		EA	1	*	*	*	*	*	*	*		3-66
MOOZZ			...LOOP,TIE CORD			1									3-66
MOOZZ			...TIE CORD			1									3-66
MOOZZ			..POCKET BAND			64									1-9
MFFZZ			..REINFORCEMENT TAPE,RADIAL SEAM			192									3-68
PBOOZ	1670-360-0475	51D6183 (98750)	..RISER,CARGO PARACHUTE		EA	2	*	*	*	*	*	*	*		2-121
MOOZZ			...BUFFER,CLEVIS ATTACHING LOOP			1									3-69
PAOZZ	1670-217-2421	MS22002-1 (96906)	...LINK ASSEMBLY-CONNECTOR		EA	8	*	*	*	*	*	*	*		2-128
PAOZZ	5305-269-6657	MS22002-3 (96906)	....SETSCREW		EA	16	*	*	*	*	*	*	*		2-128
MOOZZ			..SKIRT,HESITATOR-U/O G-12C ONLY			1									3-70
MFFZZ			..REINFORCEMENT,SUSPENSION LINE			64									3-71
PAOOZ	1670-039-5073	54K6299 (98750)	.DEPLOYMENT BAG,PARACHUTE		EA	1	*	*	*	*	*	*	*		1-14
MOOZZ			..BUFFER,BRIDLE BREAKCORD ATTACHING LOOP			1									3-72

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE	DESCRIPTION	USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW 1-5	15-DAY ORG MAINT ALW 6-20	15-DAY ORG MAINT ALW 21-50	15-DAY ORG MAINT ALW 51-100	30-DAY DS MAINT ALW 1-20	30-DAY DS MAINT ALW 21-50	30-DAY DS MAINT ALW 51-100	1-YR ALW PER 100 EQP CNTY	ILLUSTRATION FIG.NO.
			GROUP 06 (CONTINUED)												
MOOZZ			..LOOP,BAG CLOSING			6									3-73
MOOZZ			..LOOP,STOW,LOCKING			2									3-75
MOOZZ			..LOOP,RETAINING STRAP,SUSPENSION LINE			8									3-76
MOOZZ			..STRAP,RETAINING,SUSPENSION LINE			2									3-77
MOOZZ			..WEBBING,CLUSTER TIE			4									3-79
MOOZZ			..TIE LOOP,RISER EXTENSION			10									3-80
MOOZZ			..TIE STRAP,RISER EXTENSION			2									3-80
PB000	1670-00-218-1185	53D6805 (98750)	.LINE,DEPLOYMENT--111 IN.LG		EA	1	*	*	*	*	*	*	*		1-10
PAOZZ	1670-00-217-2421	MS22002-1 (96906)	..LINK ASSEMBLY--CONNECTOR		EA	1	*	*	*	*	*	*	*		1-10
PAOZZ	5305-00-269-6657	MS22002-3 (96906)	...SETSCREW		EA	2	*	*	*	*	*	*	*		1-10
PB000	1670-00-216-7297	53E6803-1 (98750)	.PILOT PARACHUTE--68 IN.DIA		EA	1	*	*	*	*	*	*	*		1-11
PAOZZ	1670-00-217-2421	MS22002-1 (96906)	..LINK ASSEMBLY--CONNECTOR		EA	1	*	*	*	*	*	*	*		1-11
PAOZZ	5305-00-269-6657	MS22002-3 (96906)	...SETSCREW		EA	2	*	*	*	*	*	*	*		1-11
MOOZZ			..TAPE,CROWN INSIDE REINFORCEMENT			2									3-82
MOOZZ			..LOOP,ATTACHING,CROWN			2									3-83
MOOZZ			..TAPE,SUSPENSION LINE REINFORCING			8									3-85
MOOZZ			..LINE,SUSPENSION			8									2-138
PA000	1670-00-841-0020	59J6171 (98750)	.STATIC LINE,CARGO PARACHUTE		EA	1	*	*	*	*	*	*	*		1-2
PB000	1670-00-678-8560	MS70086-1 (96906)	..CLEVIS,RISER,AIR DELIVERY		EA	1	*	*	*	*	*	*	*		3-1
MOOZZ			...PIN,SAFEY			1									3-2
MOOZZ			...CORD,CLEVIS,PIN RETAINING			1									3-1
MOOZZ			..LINE,BRIDLE			1									3-88
MOOZZ			..LOOP,TIE-DOWN			4									3-90
			GROUP 07 100 FOOT CARGO PARACHUTE (G-11A & G-11B)												
	1670-00-269-1107	51C6718 (98750)	PARACHUTE,CARGO--100 FT DIA,G-11A												1-15
	1670-00-016-7841	11-1-2566 (81337)	PARACHUTE,CARGO--100 FT DIA(PDV),G-11B												1-15
XA---		48J7841-3 (98750)	.CANOPY,CARGO PARACHUTE--U/O G-11A			1									1-15
XA---		11-12567 (81337)	.CANOPY,CARGO PARACHUTE--U/O G-11B			1									1-15
PBOZZ	1670-00-086-7781	64D22262 (98750)	..BRACKET,CUTTER,REEFING LINE 2 EA U/O G-11A,4 EA U/O G-11B		EA	V	*	*	*	*	*	*	*		3-91
MFFZZ			..LINE,CANOPY			60									1-15
PAOZZ	1670-00-217-2421	MS22002-1 (96906)	..LINK ASSEMBLY,CONNECTOR		EA	12	*	*	*	*	*	*	*		1-16
PAOZZ	5305-00-269-6657	MS22002-3 (96906)	...SETSCREW		EA	24	*	*	*	*	*	*	*		1-16
MOOZZ			..LOOP,ATTACHING			1									3-92
PBOZZ	1670-00-308-4221	54C6335 (98750)	..POCKET,PARACHUTE INSPECTION DATA--U/O G-11A		EA	1	*	*	*	*	*	*	*		2-98
PAOZZ	1670-01-018-6756	11-1-2587 (81337)	..POCKET,PARACHUTE INSPECTION DATA--U/O G-11B		EA	1	*	*	*	*	*	*	*		2-98
MOOZZ			...LOOP,TIE CORD			1									2-98
MOOZZ			...TIE CORD			1									2-98
MOOZZ			..POCKET BAND--118 EA U/O G-11A,116 EA U/O G-11B			V									1-16
MOOZZ		11-1-2578 (81337)	..REINFORCEMENT,PANEL,CUTTER BRACKET 4 EA U/O G-11A,8 EA U/O G-11B			V									3-93
MFFZZ			..REINFORCEMENT TAPE,RADIAL LINE			360									3-94
PAOZZ	1670-00-360-0469	MS27762-1 (96906)	..RING,REEFING--118 EA U/O G-11A,116 EA U/O G-11B		EA	V	*	*	*	*	*	*	*		3-95
MOOZZ			..RETAINER,REEFING RING 118 EA U/O G-11A,116 EA U/O G-11B			V									3-95

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE		DESCRIPTION	USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW				30-DAY DS MAINT ALW			1-YR ALW PER 100 EQP CNTY	ILLUSTRATION FIG. NO.
								1-5	6-20	21-50	51-100	1-20	21-50	51-100		
				GROUP 07 (CONTINUED)												
PAOZZ	1670-01-016-5905	11-1-1547	(81337)	..STRAP,WEBBING,CENTERLINE--U/O G-11B		EA	1	*	*	*	*	*	*	*		1-15
PAOOO	1670-00-377-6638	53J6413	(98750)	..RISER,SUSPENSION,PARACHUTE		EA	3	*	*	*	*	*	*	*		2-109
PAOZZ	1670-00-217-2421	MS22002-1	(96906)	...LINK ASSEMBLY,CONNECTOR		EA	4	*	*	*	*	*	*	*		2-109
PAOZZ	5305-00-269-6657	MS22002-3	(96906)	....SETSCREW		EA	8	*	*	*	*	*	*	*		2-109
MFFZZ				..V-TAB			120									1-15
PAOZZ	1670-00-377-9388	52D6354	(98750)	.BRIDLE,PARACHUTE DEPLOYMENT BAG		EA	1	*	*	*	*	*	*	*		1-18
PAOZZ	1670-00-217-2421	MS22002-1	(96906)	.LINK ASSEMBLY,CONNECTOR		EA	4	*	*	*	*	*	*	*		1-18
PAOZZ	5305-00-269-6657	MS22002-3	(96906)	..SETSCREW		EA	8	*	*	*	*	*	*	*		1-18
PAOFF	1670-00-368-4219	50K7415	(98750)	.DEPLOYMENT BAG,PARACHUTE--U/O G-11A		EA	1	*	*	*	*	*	*	*		1-17
PAOFF	1670-01-016-5904	11-1-2580	(81337)	.DEPLOYMENT BAG,PARACHUTE--U/O G-11B		EA	1	*	*	*	*	*	*	*		1-17
PBOZZ	5325-00-231-6590	MS20230B2	(96906)	..GROMMET,METALLIC--NO.2		EA	64	*	*	*	*	*	*	*		2-167
PBOZZ	5325-00-291-0293	MS20230B3	(96906)	..GROMMET,METALLIC--NO.3		EA	V	*	*	*	*	*	*	*		2-167
				3 EA U/O G-11A,7 EA U/O G-11B												
MOOZZ		50K7415-14	(98750)	..LOOP,STOW,LOCKING			2									3-99
MOOZZ		50C7415-34	(98750)	..SLEEVE,PROTECTOR,LOCKING LOOP			2									3-101
PAOZZ	4030-01-027-3380	11-1-1631	(81337)	SHACKLE,ANCHOR,SLOTTED SCREW PIN--U/W G-11B		EA	1	*	*	*	*	*	*	*		2-143
PAOZZ	1377-00-06000885	400715	(07278)	CUTTER,POWDER ACTUATED REEFING LINE--TYPE M-21		EA	V	*	*	*	*	*	*	*		2-143
				2 EA U/W G-11A,4 EA U/W G-11B												
PAOZZ	1670-00-090-5354	MS70087-3	(96906)	CLEVIS,SUSPENSION,AIR DELIVERY--1 IN.U/W G-11A		EA	1	*	*	*	*	*	*	*		2-166
PAOZZ	5310-00-891-3428	MS35691-77	(96906)	.NUT,PLAIN,HEXAGON		EA	1	*	*	*	*	*	*	*		2-166
PAOZZ	5305-00-177-5617	MS90727-241	(96906)	.SCREW,CAP,HEXAGON HEAD		EA	1	*	*	*	*	*	*	*		2-166
				GROUP 08												
				15 FOOT CARGO EXTRACTION PARACHUTE												
	1670-00-052-1548	61A4312	(98750)	PARACHUTE,CARGO EXTRACTION--15 FT DIA												1-19
XA---		57J6032	(98750)	.CANOPY,CARGO EXTRACTION PARACHUTE			1									1-19
MFFZZ				..GORE PANEL,CANOPY			80									1-19
MFFZZ				..LINE,CENTERING,BRIDLE			1									3-103
MFFZZ				..LINE,SUSPENSION			16									2-175
MFFZZ				..LINE,VENT			4									2-172
PAOZZ	1670-00-217-2421	MS22002-1	(96906)	..LINK ASSEMBLY--CONNECTOR		EA	2	*	*	*	*	*	*	*		2-175
PAOZZ	5305-00-269-6657	MS22002-3	(96906)	...SETSCREW		EA	4	*	*	*	*	*	*	*		2-175
MOOZZ				..LOOP,ATTACHMENT			1									3-104
MFFZZ				..LOOP,ATTACHING,SUSPENSION LINE			16									3-105
MOOZZ				..POCKET BAND			16									3-106.
PAOOO	1670-00-815-2727	58J6100	(98750)	.DEPLOYMENT BAG,PARACHUTE		EA	1	*	*	*	*	*	*	*		1-21
PBOZZ	5325-00-231-6689	MS20230B10	(96906)	..GROMMET,METALLIC--SIZE 0		EA	1	*	*	*	*	*	*	*		2-177
MOOZZ				..KEEPER,RETAINER BAND			2									3-108
MOOZZ				..KEEPER,V-RING			2									3-109
MOOZZ				..LINE,BAG RETAINING			1									3-110
MOOZZ				...BUFFER			1									3-110
MOOZZ				..LINE,PENDULUM			1									3-111
MOOZZ				..STRAP,BRIDLE LOOP			1									3-112
MOOZZ				..LOOP,BAG CLOSING			4									3-113
PBOOO	1670-00-308-4221	54C6335	(98750)	..POCKET,PARACHUTE INSPECTION DATA		EA	1	*	*	*	*	*	*	*		3-111
MOOZZ				...LOOP,TIE CORD			1									3-111
MOOZZ				...TIE CORD			1									3-111

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE		DESCRIPTION USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW				30-DAY DS MAINT ALW			1-YR ALW PER 100 EQP CNTY	ILLUSTRATION Fig. No.
							1-5	6-20	21-50	51-100	1-20	21-50	51-100		
				GROUP 08 (CONTINUED)											
MOOZZ				..REINFORCEMENT,END SLOT		1									3-114
MOOZZ				..REINFORCEMENT,RETAINER BAND KEEPER		2									3-108
MOOZZ				..REINFORCEMENT,TIE LOOP		2									3-115
PAOZZ	1670-856-6847	60B6039	(98750)	..RING,V-BENT	EA	1	*	*	*	*	*	*	*		3-109
PBOZZ	1670-360-0471	MS22045-1	(96906)	..RING,V-PARACHUTE	EA	1	*	*	*	*	*	*	*		3-109
MOOZZ				..SAFETY CORD		1									3-116
MOOZZ				..TIE LOOP		2									3-115
PAOOZ	1670-856-0265	57C6359	(98750)	.LINE,EXTRACTION-60 FT LG	EA	1	*	*	*	*	*	*	*		1-20
MOOZZ				..BUFFER,CONNECTOR LINK LOOP		1									3-118
MOOZZ				..BUFFER,LOAD ATTACHING LOOP		1									3-119
MOOZZ				..BUFFER,RELEASE KNIFE/V-RING LOOP		1									3-120
MOOZZ		11-1-2069	(81337)	.WEB,ADAPTER-9-1/2 IN.LG		1									3-122
MOOZZ				..BUFFER,END LOOP-1-1/2 IN.LG		2									3-122
MOOZZ				..BUFFER-3-1/2 IN.LG		1									3-123
MOOZZ		62D4369	(98750)	.LINE,REEFING-148 IN.LG		1									3-124
MOOZZ				..LOOP,RETAINING		15									3-124
PBOZZ	5325-231-6589	MS20230B10	(96906)	..GROMMET,METALLIC-SIZE O	EA	4	*	*	*	*	*	*	*		3-124
MOOZZ				.LINE,REEFING-260 IN.LG		1									3-124
MOOZZ				..LOOP,RETAINING		16									3-124
PBOZZ	5325-231-6589	MS20230B10	(96906)	..GROMMET,METALLIC-SIZE O	EA	4	*	*	*	*	*	*	*		3-124
				GROUP 09 22 FOOT CARGO EXTRACTION PARACHUTE											
	1670-687-5458	59B6209	(98750)	PARACHUTE,CARGO EXTRACTION-22 FT DIA											1-22
XA---		52K6329	(98750)	.CANOPY,CARGO EXTRACTION PARACHUTE		1									1-22
MFFZZ				..GORE PANEL,CANOPY		196									1-22
MFFZZ				..LINE,CENTERING,BRIDLE		1									3-126
MFFZZ				..LINE,SUSPENSION		28									1-22
MFFZZ				..LINE,VENT		14									2-172
PAOZZ	1670-217-2421	MS22002-1	(96906)	..LINK ASSEMBLY-CONNECTOR	EA	6	*	*	*	*	*	*	*		2-175
PAOZZ	5305-269-6657	MS22002-3	(96906)	...SETSCREW	EA	12	*	*	*	*	*	*	*		2-175
MOOZZ				..LOOP,ATTACHMENT		1									3-127
MFFZZ				..LOOP,ATTACHING,SUSPENSION LINE		28									3-128
MOOZZ				..POCKET BAND		28									3-130
MOOZZ				..SPACER,SUSPENSION LINE		2									3-129
PAOOZ	1670-733-4883	58J6099	(98750)	.DEPLOYMENT BAG,PARACHUTE	EA	1	*	*	*	*	*	*	*		1-25
PBOZZ	5325-231-6589	MS20230B10	(96906)	..GROMMET,METALLIC-SIZE O	EA	1	*	*	*	*	*	*	*		2-177
MOOZZ				..KEEPER,RETAINER BAND		2									3-108
MOOZZ				..KEEPER,V-RING		2									3-109
MOOZZ				..SUPPORT WEB,BENT V-RING		2									3-133

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE	DESCRIPTION	USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW				30-DAY DS MAINT ALW			1-YR ALW PER 100 EQP CNTY	ILLUSTRATION FIG NO
							1-5	6-20	21-50	51-100	1-20	21-50	51-100		
			GROUP 09 (CONTINUED)												
MOOZZ			..LINE,BAG RETAINING			1									3-134
MOOZZ			...BUFFER			1									3-134
MOOZZ			..LINE,RENDULUM			1									3-135
MOOZZ			..STRAP,BRIDLE LOOP			1									3-136
MOOZZ			..LOOP,BAG CLOSING			4									3-137
PBOZZ	1670-308-4221	54C6335 (98750)	..POCKET,PARACHUTE INSPECTION DATA		EA	1	*	*	*	*	*	*	*		3-135
MOOZZ			...LOOP,TIE CORD			1									3-135
MOOZZ			...TIE CORD			1									3-135
MOOZZ			..REINFORCEMENT,END SLOT			1									3-138
MOOZZ			..REINFORCEMENT,RETAINER BAND KEEPER			2									3-132
MOOZZ			..REINFORCEMENT,TIE LOOP			2									3-139
PAOZZ	1670-856-6847	60B6039 (98750)	..RING,V-BENT		EA	1	*	*	*	*	*	*	*		3-133
PBOZZ	1670-360-0471	MS22045-1 (96906)	..RING,V-PARACHUTE		EA	1	*	*	*	*	*	*	*		3-109
MOOZZ			..SAFETY CORD			1									3-140
MOOZZ			..TIE LOOP			2									3-139
PAOZZ	1670-856-0266	63J4260-1 (98750)	.LINE,EXTRACTION-60 FT LG		EA	1	*	*	*	*	*	*	*		1-24
MOOZZ			..BUFFER,RELEASE KNIFE LOOP			3									3-120
MOOZZ			..BUFFER,END LOOP			2									3-119
MOOZZ			..KEEPER,SLIDING			2									3-142
PAOZZ	1670-783-5988	11-1-58 (81337)	.LINK ASSEMBLY,SINGLE SUSPENSION OR EXTRACTION- QUICK RELEASE,TYPE IV		EA	1	*	*	*	*	*	*	*		1-23
PAOZZ	1670-778-9808	57D6299 (98750)	.WEB,ADAPTER-5 FT LG		EA	1	*	*	*	*	*	*	*		1-23
MOOZZ			..BUFFER,LONG			1									3-143
MOOZZ			..KEEPER,SLIDING-W/O BUFFER			1									3-144
			GROUP 10 28 FOOT CARGO EXTRACTION PARACHUTE												
	1670-262-1797	11-1-2154 (81337)	PARACHUTE,CARGO EXTRACTION-28FT DIA												1-26
	1670-040-8135	11-1-2146 (81337)	PARACHUTE,CARGO EXTRACTION-28FT DIA,HEAVY DUTY												
XA---		58K6326 (98750)	.CANOPY,CARGO EXTRACTION PARACHUTE-U/O P/N 11-1-2154			1									1-26
XA---		67K1901 (07808)	.CANOPY,CARGO EXTRACTION PARACHUTE-U/O P/N 11-1-2146			1									
MFFZZ			..CANOPY SECTION			V									1-26
MOOZZ			..KEEPER,SUSPENSION LINE-U/O P/N 11-1-2154			8									3-145
MFFZZ			..LINE,CENTERING,BRIDLE			1									3-146
MFFZZ			..LINE,SUSPENSION			V									1-26
MFFZZ			..LINE,VENT			V									2-172
PAOZZ	1670-217-2421	MS22002-1 (96906)	..LINK ASSEMBLY-CONNECTOR-U/O P/N 11-1-2154		EA	8	*	*	*	*	*	*	*		2-175
PAOZZ	5305-269-6657	MS22002-3 (96906)	...SETSCREW		EA	16	*	*	*	*	*	*	*		2-175
XBOZZ		MS24553-1 (96906)	..LINK,CONNECTOR,PARACHUTE-U/O P/N 11-1-2146		EA	8									
MOOZZ			..LOOP,VENT			1									3-147
MFFZZ			..LOOP,ATTACHING,SUSPENSION LINE			V									3-148
MOOZZ			..POCKET BAND			V									3-149
PAOOO	1670-274-4950	66J1713 (07878)	.DEPLOYMENT BAG,PARACHUTE-U/O P/N 11-1-2154		EA	1	*	*	*	*	*	*	*		1-29
PAOOO	1670-127-9593	66J1647 (07878)	.DEPLOYMENT BAG,PARACHUTE-U/O P/N 11-1-2146		EA	1	*	*	*	*	*	*	*		
MOOZZ			..BRIDLE STRAP,BAG-U/O P/N 11-1-2146			2									
PBOZZ	5325-231-6589	MS20230B10 (96906)	..GROMMET,METALLIC-SIZE 0		EA	1	*	*	*	*	*	*	*		2-177

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE		DESCRIPTION	USABLE ON CODE	UNIT OF MEAS	QTY INC IN UNIT	15-DAY ORG MAINT ALW				30-DAY DS MAINT ALW			1-YR ALW PER 100 EQUIP CNTGY	ILLUSTRATION
								1-5	6-20	21-50	51-100	1-20	21-50	51-100		FIG. NO.
				GROUP 10 (CONTINUED)												
MOOZZ				..KEEPER,RETAINER BAND			V									3-108
MOOZZ				..KEEPER,V-RING			2									3-109
MOOZZ				..SUPPORT WEB,BENT V-RING--U/O P/N 11-1-2154			1									3-133
MOOZZ				..LINE,BAG RETAINING			1									3-134
MOOZZ				...BUFFER			1									3-134
MOOZZ				..LINE,PENDULUM			1									3-135
MOOZZ				..STRAP,BRIDLE LOOP--P/N 11-1-2154			1									3-136
MOOZZ				..LOOP,BAG CLOSING			4									3-152
PBOZZ	1670-00-308-4221	54C6335	(98750)	..POCKET,PARACHUTE INSPECTION DATA		EA	1	*	*	*	*	*	*	*		3-135
MOOZZ				..REINFORCEMENT,END SLOT			1									3-153
MOOZZ				..REINFORCEMENT,RETAINER BAND KEEPER			2									3-132
MOOZZ				..REINFORCEMENT,TIE LOOP			1									3-139
PAOZZ	1670-00-856-6847	60B6039	(98750)	..RING,V-BENT		EA	1	*	*	*	*	*	*	*		3-133
PAOZZ	1670-00-360-0471	MS22045-1	(96906)	..RING,V--PARACHUTE		EA	1	*	*	*	*	*	*	*		3-109
MOOZZ				..SAFETY CORD			1									3-140
MOOZZ				..TIE LOOP			2									3-139
PAOOO	1670-00-045-9972	63J4260-2	(98750)	.LINE,EXTRACTION--60 FT LG,U/O P/N 11-1-2154		EA	1	*	*	*	*	*	*	*		1-28
MOOZZ				..BUFFER,RELEASE KNIFE LOOP			3									3-120
MOOZZ				..BUFFER,END LOOP			2									3-119
MOOZZ				..KEEPER,SLIDING			2									1-42
PAOZZ	1670-00-783-5988	11-1-58	(81337)	.LINK ASSEMBLY,SINGLE SUSPENSION OR EXTRACTION-QUICK RELEASE--U/O P/N 11-1-2154		EA	1	*	*	*	*	*	*	*		1-27
PAOZZ	1670-00-432-2513	65D1511-4	(07878)	.LINE,EXTRACTION--60 FT LG,U/O P/N 11-1-2146		EA	1	*	*	*	*	*	*	*		1-28
PAOOO	1670-00-045-9974	57D6300	(98750)	.WEB,ADAPTER--9 FT LG,U/O P/N 11-1-2154		EA	1	*	*	*	*	*	*	*		1-27
PAOOO	1670-00-141-3610	66D1659	(07878)	.WEB,ADAPTER--106 IN. LG,U/O P/N 11-1-2146		EA	1	*	*	*	*	*	*	*		1-27
MOOZZ				..BUFFER,LONG			1									3-143
MOOZZ				..KEEPER,SLIDING--W/O BUFFER			1									3-144
MOOZZ				..BUFFER,SHORT--U/O P/N 11-1-2146			8									1-27
MOOZZ				..KEEPER,FIXED--U/O P/N 11-1-2146			9									1-27
PAOZZ	1670-00-003-4393	71174-30	(98750)	CENTER LINE ASSEMBLY--10 FT LG,U/W LAPES		EA	1	*	*	*	*	*	*	*		
PAOZZ	1670-00-003-4392	71174-10	(98750)	CENTER LINE ASSEMBLY--41.5 FT LG,U/W LAPES		EA	1	*	*	*	*	*	*	*		
PAOZZ	1670-00-893-1631	MS70085-1	(96906)	CLEVIS,TIE-DOWN--U/W LAPES		EA	1	*	*	*	*	*	*	*		
PAOZZ	1670-01-072-1378	76157-10	(07878)	EXTRACTION LINK ASSEMBLY U/W LAPES		EA	1	*	*	*	*	*	*	*		
PAOZZ	1670-01-072-5637	76159-01	(07878)	• LINK JETTISON		EA	1	*	*	*	*	*	*	*		
PAOZZ	1670-00-003-4391	71172	(98750)	KNIFE,PARACHUTE BAG--U/W LAPES		EA	1	*	*	*	*	*	*	*		
PAOZZ	5365-00-008-6221	71173	(98750)	SPACER,OFF-SET LINK--U/W LAPES		EA	1	*	*	*	*	*	*	*		
PAOZZ	1670-00-003-4394	7115-30	(98750)	EXTENSION, DEPLOYMENT BAG–PACKING, W/W LAPES		EA	1	*	*	*	*	*	*	*		
PAOOO	1670-01-036-0724	11-1-2593	(81337)	DROGUE LINE–(U/W 11-1-2146)		EA	1	*	*	*	*	*	*	*		
PAOOO	1670-01-036-0722	11-1-2590	(81337)	BAG, EXTENSION LINE–(U/W 11-1-2146)		EA	1	*	*	*	*	*	*	*		
PAOOO	1670-01-072-1378	76157-10	(D7878)	LINK, EXTRACTION–(U/W 11-1-2146)		EA	1	*	*	*	*	*	*	*		
PAOOO	1670-01-035-6054	11-1-2586	(81337)	BRIDLE, EXTRACTION–(U/W 11-1-2146)		EA	1	*	*	*	*	*	*	*		
				GROUP 11 3 FOOT CARGO PILOT PARACHUTE												
	1670-00-294-0288	64822172	(98750)	PILOT PARACHUTE--3 FT SQ		EA										2-187
		51C6055	(98750)	.LINE BRIDLE,DEPLOYMENT WEIGHT (USE UNTIL EXHAUSTED NO REPLACEMENT)												1-32

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE		DESCRIPTION USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW				30-DAY DS MAINT ALW			1-YR ALW PER 100 EQP CNTY	ILLUSTRATION Fig. No.
							1-5	6-20	21-50	51-100	1-20	21-50	51-100		
				GROUP 11 (CONTINUED)											
MOOZZ				..LOOP,PACK LOCKING		1									3-154
		51C6257	(98750)	.LINE,RETAINING--235-1/2 IN. LG (USE UNTIL EXHAUSTED NO REPLACEMENT)	EA	1									1-31
MOOZZ				..BUFFER		2									3-156
		53D6795	(98750)	.PACK,PILOT PARACHUTE (NO REPLACEMENT)	EA	1									1-33
PBOZZ	1670-00-491-0948	MS27763-1	(96906)	..CONE,RELEASING,PARACHUTE PACK	EA	1	*	*	*	*	*	*	*		2-187
MOOZZ				..CORD,TIE-DOWN		4									3-158
PBOZZ	5325-247-0217	MS22048B1	(96906)	..GROMMET,METALLIC-SIZE 5	EA	3	*	*	*	*	*	*	*		2-188
MOOZZ				..LOOP,PACK CLOSING		1									3-159
		51D6252	(98750)	.PILOT PARACHUTE CANOPY-3 FT SQ (USE UNTIL EXHAUSTED NO REPLACEMENT)	EA	1									1-30
		51D6045	(98750)	.WEIGHT,PILOT PARACHUTE DEPLOYMENT-7 LB (USE UNTIL EXHAUSTED NO REPLACEMENT)	EA	1									1-34
				GROUP 12 BULK MATERIALS											
PAOZZ	1670-568-0323			BAND,RUBBER,PARACHUTE SUSPENSION LINE RETAINER-100 PER BOX MIL-B-1832,TYPE I	EA	V	*	*	*	*	*	*	*		BULK
PAOZZ	8135-171-0981			BARRIER MATERIAL,WATERPROOFED,FLEXIBLE-60 IN.W, 200 YD ROLL, FED UU-P-271,CLASS L-2B	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	9160-253-1171			BEESWAX,TECHNICAL-1 LB CAKE,FED C-B-191	LB	V	*	*	*	*	*	*	*		BULK
PAOZZ	5350-221-0872			CLOTH,ABRASIVE-FERRIC OXIDE & QUARTZ,JEAN CLOTH BACKING,9 IN.W,11 IN.LG,24 SHEETS PER CARTON, FED P-C-458	SH	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-460-4200			CLOTH,COATED-BALLOON COTTON,5.9 to 6.9 OZ,OLIVE DRAB,35 TO 45 IN.W,ONE SIDE ADHESIVE COATED, MIL-C-43677	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-170-9268			CLOTH,DUCK-COTTON,TYPE I,17.55 OZ,NO.8,OLIVE DRAB, 36 IN.W,FED CCC-C-419	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-170-5871			CLOTH,DUCK-COTTON,TYPE I,23.93 OZ,NO.4,OLIVE DRAB, 36 IN.W,FED CCC-C-419	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-171-1203			CLOTH,DUCK-COTTON,TYPE III,8.25 OZ,OLIVE DRAB, 33 IN.W,FED CCC-C-419	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-185-9731			CLOTH,DUCK-COTTON,TYPE III,12.29 OZ,OLIVE DRAB, 29-1/2 IN.W,FED CCC-C-419	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-765-2863			CLOTH,DUCK-NYLON,TYPE III,7.25 OZ,SAGE GREEN, 42 IN.W,MIL-C-7219	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-244-0214			CLOTH,MUSLIN-COTTON,TYPE II,3.7 OZ,NATURAL COLOR, 36 IN.W,MIL-C-4279	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-926-1559			CLOTH,MUSLIN-COTTON,TYPE II,3.7 OZ,OLIVE DRAB, 37 IN.W,MIL-C-4279	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-433-5986			CLOTH,MUSLIN-COTTON,TYPE III,3.8 OZ,OLIVE GREEN, 45 IN.W,MIL-C-4279	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-254-4842			CLOTH,PARACHUTE-NYLON,TYPE I,1.1 OZ,NATURAL COLOR, 36 IN.W,MIL-C-7020	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-270-1291			CLOTH,PARACHUTE-NYLON,TYPE I,1.1 OZ,OLIVE GREEN, 36 IN.W,MIL-C-7020	FT	V	*	*	*	*	*	*	*		BULK

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE	DESCRIPTION USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW 1-5	15-DAY ORG MAINT ALW 6-20	15-DAY ORG MAINT ALW 21-50	15-DAY ORG MAINT ALW 51-100	30-DAY DS MAINT ALW 1-20	30-DAY DS MAINT ALW 21-50	30-DAY DS MAINT ALW 51-100	1-YR ALW PER 100 EQP CNTY	ILLUSTRATION Fig. No.
			GROUP 12 (CONTINUED)											
PAOZZ	8305-641-4380		CLOTH,PARACHUTE-NYLON,TYPE I,2.25 OZ,OLIVE GREEN,.. 36-1/2 IN.W,MIL-C-7350	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-577-4599		CLOTH,PARACHUTE-NYLON,TYPE II,1.6 OZ,NATURAL....... COLOR,36 TO 37 IN.W,MIL-C-7020	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-782-2988		CLOTH,PARACHUTE-NYLON,TYPE II,1.6 OZ,OLIVE GREEN,.. 36 IN.W,MIL-C-7020	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-205-1478		CLOTH,PARACHUTE-NYLON,TYPE II,3.5 OZ,NATURAL....... COLOR,36-1/2 IN.W,MIL-C-7350	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-940-8326		CLOTH,SATEEN-COTTON,CLASS 1,8.2 OZ,OLIVE GREEN,.... 36 IN.W,MIL-C-10296	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	1670-176-1802		CLOTH,PARACHUTE MENDING-NYLON,OLIVE DRAB,.......... 36 IN.W,60 YD ROLL,ONE SIDE ADHESIVE COATED, MIL-T-43618	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-240-2141		CORD,FIBROUS-LINEN,NATURAL COLOR,190 YD PER TUBE,.. MIL-C-2522	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-113-3896		CORD,FIBROUS-NYLON,TYPE I,CORELESS,400 LB BREAKING. STRENGTH,NATURAL COLOR,400 YD PER SPOOL, MIL-C-7515	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-240-2154		CORD,FIBROUS-NYLON,TYPE I,100 LB BREAKING STRENGTH, NATURAL COLOR,500 YD PER SPOOL,MIL-C-5040	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-926-1368		CORD,FIBROUS-NYLON,TYPE IA,CORELESS,400 LB......... BREAKING STRENGTH,OLIVE DRAB,700 YD PER SPOOL, MIL-C-7515	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-782-5415		CORD,FIBROUS-NYLON,TYPE II,CORELESS,550 LB......... BREAKING STRENGTH,OLIVE DRAB,MIL-C-7515	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-262-2019		CORD,FIBROUS-NYLON,TYPE II,400 LB BREAKING......... STRENGTH,OLIVE GREEN,400 YD PER SPOOL,MIL-C-5040	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-240-2146		CORD,FIBROUS-NYLON,TYPE III,550 LB BREAKING........ STRENGTH,NATURAL COLOR,700 YD PER SPOOL, MIL-C-5040	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-246-0688		CORD,FIBROUS-NYLON,TYPE III,550 LB BREAKING........ STRENGTH,OLIVE DRAB,400 YD PER SPOOL,MIL-C-5040	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-262-2020		CORD,FIBROUS-NYLON,TYPE IV,CORELESS,1,000 LB....... BREAKING STRENGTH,OLIVE DRAB,400 YD PER SPOOL, MIL-C-7515	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-965-0473		CORD,FIBROUS-NYLON,TYPE V,CORELESS,1,500 LB........ BREAKING STRENGTH,OLIVE DRAB,MIL-C-7515	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-965-0435		CORD,FIBROUS-NYLON,TYPE VI,CORELESS,2,000 LB....... BREAKING STRENGTH,OLIVE DRAB,700 YD PER SPOOL, MIL-C-7515	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-252-2941		CORD,FIBROUS-RAYON,TYPE I,CORELESS,400 LB.......... BREAKING STRENGTH,NATURAL COLOR,525 YD PER SPOOL,MIL-C-4232	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	4020-252-2942		CORD,FIBROUS-RAYON,TYPE II,CORELESS,1,000 LB....... BREAKING STRENGTH,NATURAL COLOR,150 YD PER SPOOL,MIL-C-4232	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	7930-281-4731		DISHWASHING COMPOUND,HAND-FLAKE,50 LB SACK,........ FED P-D-410	LB	V	*	*	*	*	*	*	*		BULK

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						1-5	6-20	21-50	51-100	1-20	21-50	51-100		
			GROUP 12 (CONTINUED)											
PAOZZ	6850-264-9038		DRY CLEANING SOLVENT-LIQUID,5 GAL PAIL,FED P-D-680.	GL	V	*	*	*	*	*	*	*		BULK
PAOZZ	8010-297-2124		ENAMEL-OLIVE DRAB,NO.X24087,FED STD 595,........... SEMIGLOSS,1 GAL CAN,FED TT-E-485,TYPE II	GL	V	*	*	*	*	*	*	*		BULK
PAOZZ	7510-634-6583		INK,MARKING,PARACHUTE-ORANGE-YELLOW,1 PT BOTTLE,... MIL-I-6903,TYPE IV	PT	V	*	*	*	*	*	*	*		BULK
PAOZZ	7510-286-5362		INK,MARKING,PARACHUTE-STRATA-BLUE,1 PT CAN,........ MIL-I-6903,TYPE IV	PT	V	*	*	*	*	*	*	*		BULK
PAOZZ	5315-664-1460		NAIL-COMMON,6D,STEEL,CEMENT COATED,100 LB KEG OR... CARTON,FED FF-N-105	LB	V	*	*	*	*	*	*	*		BULK
PAOZZ	8135-160-7759		PAPER,KRAFT,UNTREATED-36 IN.W,9 IN.DIA ROLL,....... FED UU-P-268	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	5530-234-4812		PLYWOOD-HARDWOOD,5 PLY,1/2 IN.THK,48 IN.LG,........ 96 IN.LG,FED NN-P-530	SF	V	*	*	*	*	*	*	*		BULK
PAOZZ	9310-160-7858		STENCILBOARD-OILED,1/64 IN.THK,24 IN.W,36 IN.LG,... 100 SHEETS PER WRAPPER,FED UU-S-625,TYPE II, GRADE 1	SH	V	*	*	*	*	*	*	*		BULK
PAOZZ	8135-802-8311		TAPE,PRESSURE SENSITIVE ADHESIVE-3/4 IN.W,TYPE II,. TRANSPARENT,60 YD ROLL,FED PPP-T-97	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8135-266-5006		TAPE,PRESSURE SENSITIVE ADHESIVE-1 IN.W,TYPE I,.... OLIVE DRAB,CLOTH BACKING,OPAQUE,60 YD ROLL, FED PPP-T-60	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	7510-00-266-5016		TAPE, PRESSURE SENSITIVE, 2 IN WIDE, WOVEN ... CLOTH BACKING, 60 YD ROLL, A-A-1586	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	7510-663-0196		TAPE,PRESSURE SENSITIVE ADHESIVE-2 IN.W,TYPE III,... OLIVE DRAB,FILM BACKING,OPAQUE,60 YD ROLL, FED PPP-T-60	YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8315-253-6292		TAPE,TEXTILE-COTTON,TYPE I,1-1/2 IN.W,OLIVE DRAB,.. 190 LB BREAKING STRENGTH,MIL-T-43566	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8315-253-6271		TAPE,TEXTILE-COTTON,TYPE III,3/4 IN.W,OLIVE DRAB,.. 75 LB BREAKING STRENGTH,MIL-T-5561	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8315-281-3221		TAPE,TEXTILE-COTTON,TYPE III,3/4 IN.W,OLIVE DRAB,.. 75 LB BREAKING STRENGTH,MILDEW RESISTANT, MIL-T-5661	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8315-255-7675		TAPE,TEXTILE-NYLON,TYPE I,TUBULAR,1 IN.W,NATURAL... COLOR,525 LB BREAKING STRENGTH,MIL-T-6134	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8315-255-7673		TAPE,TEXTILE-NYLON,TYPE III,1/2 IN.W,OLIVE DRAB,... 250 LB BREAKING STRENGTH,MIL-T-5038	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8315-176-8083		TAPE,TEXTILE-NYLON,TYPE III,3/4 IN.W,OLIVE DRAB,... 400 LB BREAKING STRENGTH,MIL-T-5038	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	6810-270-9982		TETRACHLOROETHYLENE,TECHNICAL-LIQUID,55 GAL DRUM,... FED O-T-236	GL	V	*	*	*	*	*	*	*		BULK

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							1-5	6-20	21-50	51-100	1-20	21-50	51-100		
			GROUP 12 (CONTINUED)												
PAOZZ	8310-194-4156		THREAD,COTTON-TICKET NO.3,NATURAL WHITE,........... 1,775 YD PER TUBE,MIL-T-5660,STYLE A,TYPE II		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-248-9732		THREAD,COTTON-TICKET NO.3,OLIVE DRAB,1,775 YD PER.. TUBE,MIL-T-5660,STYLE A,TYPE II		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-194-4055		THREAD,COTTON-TICKET NO.5,NATURAL WHITE,860 YD..... PER TUBE,MIL-T-5660,STYLE A,TYPE II		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-194-4065		THREAD,COTTON-TICKET NO.5,OLIVE DRAB,860 YD PER.... TUBE,MIL-T-5660,STYLE A,TYPE II		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-262-2551		THREAD,COTTON-TICKET NO.16,OLIVE DRAB,4,800 YD..... PER TUBE,FED V-T-276,TYPE IB3		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-261-8690		THREAD,COTTON-TICKET NO.16,WHITE,4,800 YD PER...... TUBE,FED V-T-276,TYPE IB2		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-261-9741		THREAD,COTTON-TICKET NO.24,WHITE,6,000 YD PER...... TUBE,FED V-T-276,TYPE IB2		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-262-3324		THREAD,NYLON-SIZE NO.A,NATURAL WHITE,8,450 YD PER.. TUBE,FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-244-0603		THREAD,NYLON-SIZE NO.A,OLIVE DRAB,8,450 YD PER..... TUBE,FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-262-2770		THREAD,NYLON-SIZE NO.E,NATURAL WHITE,2,800 YD...... PER TUBE,FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-262-2772		THREAD,NYLON-SIZE NO.E,OLIVE DRAB,2,800 YD PER..... TUBE,FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-267-3024		THREAD,NYLON-SIZE NO.FF,NATURAL WHITE,2,725 YD..... PER TUBE,FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-227-1244		THREAD,NYLON-SIZE NO.FF,OLIVE DRAB,1,362 YD PER.... TUBE,FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-248-9714		THREAD,NYLON-SIZE NO.3,NATURAL WHITB,900 YD PER.... TUBE,FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-267-3027		THREAD,NYLON-SIZE NO.3,OLIVE DRAB,900 YD PER TUBE,. FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-248-9715		THREAD,NYLON-SIZE NO.5,NATURAL WHITE,500 YD PER.... TUBE,FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-262-2777		THREAD,NYLON-SIZE NO.5,OLIVE DRAB,500 YD PER TUBE,. FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-248-9716		THREAD,NYLON-SIZE NO.6,NATURAL WHITE,425 YD PER.... TUBE,FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	8310-262-2780		THREAD,NYLON-SIZE NO.6,OLIVE DRAB,425 YD PER TUBE,. FED V-T-295,TYPE I,CLASS 1		YD	V	*	*	*	*	*	*	*		BULK
PAOZZ	9160-285-2044		WAX,PARAFFIN,TECHNICAL-1 LB CAKE,FED VV-W-95,...... TYPE I,GRADE A		LB	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-268-2411		WEBBING,TEXTILF-COTTON,TYPE I,1/4 IN.W,NATURAL..... COLOR,80 LB BREAKING STRENGTH,MIL-T-5661		FT	V	*	*	*	*	*	*	*		BULK

SMR CODE	FEDERAL STOCK NUMBER	REFERENCE NUMBER & MFR CODE	DESCRIPTION USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW				30-DAY DS MAINT ALW			1-YR ALW PER 100 EQP CNTY	ILLUSTRATION Fig. No.
						1-5	6-20	21-50	51-100	1-20	21-50	51-100		
			GROUP 12 (CONTINUED)											
PAOZZ	8305-263-3616		WEBBING,TEXTILE-COTTON,TYPE I,9/16 IN.W,........... NATURAL COLOR,350 LB BREAKING STRENGTH,MILDEW RESISTANT,MIL-W-5665,CLASS 1B	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-260-2561		WEBBING,TEXTILE-COTTON,TYPE II,1 IN.W,OLIVE DRAB... 575 LB BREAKING STRENGTH,MIL-W-5665,CLASS 2A	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-281-3315		WEBBING,TEXTILE-COTTON,TYPE II,1 IN.W,OLIVE DRAB... 575 LB BREAKING STRENGTH,MILDEW RESISTANT, MIL-W-5665,CLASS 2B	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-260-2573		WEBBING,TEXTILE-COTTON,TYPE XII,1-3/4 IN.W,OLIVE... DRAB,1,000 LB,BREAKING STRENGTH,MIL-W-5665, CLASS 2A	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-260-2565		WEBBING,TEXTILE-COTTON-NYLON,TYPE VIII,1-3/4 IN.W.. OLIVE DRAB,2,900 LB BREAKING STRENGTH, MIL-W-5665,CLASS 2A	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-260-2564		WEBBING,TEXTILE-COTTON-NYLON,TYPE VIII,1-3/4 IN.W,. OLIVE DRAB,2,900 LB BREAKING STRENGTH,MILDEW RESISTANT,MIL-W-5665,CLASS 2B	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-753-6086		WEBBING,TEXTILE-COTTON-NYLON,TYPE X,1-3/4 IN.W,.... OLIVE DRAB,5,000 LB BREAKING STRENGTH,MILDEW RESISTANT,MIL-W-5665,CLASS 2B	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-263-3639		WEBBING,TEXTILE-NYLON,TYPE I,9/16 IN.W,NATURAL..... COLOR,500 LB BREAKING STRENGTH,MIL-W-4088	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-260-6909		WEBBING,TEXTILE-NYLON,TYPE I,9/16 IN.W,OLIVE DRAB,. 500 LB BREAKING STRENGTH,MIL-W-4088	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-260-6910		WEBBING,TEXTILE-NYLON,TYPE I,1 IN.W,OLIVE DRAB..... 600 LB BREAKING STRENGTH,MIL-W-4088	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-479-1796		WEBBING,TEXTILE-NYLON,TYPE IV,1/2 IN.W,OLIVE DRAB,. 550 LB BREAKING STRENGTH,MIL-T-5038	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-261-8579		WEBBING,TEXTILE-NYLON,TYPE IV,1 IN.W,OLIVE DRAB,... 1,000 LB BREAKING STRENGTH,MIL-T-5038	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-263-2472		WEBBING,TEXTILE-NYLON,TYPE IV,1-1/2 IN.W,OLIVE..... DRAB,1.500 LB BREAKING STRENGTH,MIL-T-5038	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-281-3013		WEBBING,TEXTILE-NYLON,TYPE VI,1-23/32 IN.W,OLIVE... DRAB,2,500 LB BREAKING STRENGTH,MIL-W-4088	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-261-8585		WEBBING,TEXTILE-NYLON,TYPE VIII,1-23/32 IN.W,OLIVE. DRAB,3,600 LB BREAKING STRENGTH,MIL-W-4088	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-261-8584		WEBBING,TEXTILE-NYLON,TYPE X,1-23/32 IN.W,OLIVE.... DRAB,8,700 LB BREAKING STRENGTH,MIL-W-4088	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-281-3012		WEBBING,TEXTILE-NYLON,TYPE XII,1-23/32 IN.W,OLIVE.. DRAB,1,200 LB BREAKING STRENGTH,MIL-W-4088	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-267-3009		WEBBING,TEXTILE-NYLON,TYPE XVII,1 IN.W,OLIVE DRAB.. 2,500 LB BREAKING STRENGTH,MIL-W-4088	FT	V	*	*	*	*	*	*	*		BULK

SMR CODE	FEDERAL STOCK NUMBER	DESCRIPTION REFERENCE NUMBER & MFR CODE	USABLE ON CODE	UNIT OF MEA	QTY INC IN UNIT	15-DAY ORG MAINT ALW 1-5	6-20	21-50	51-100	30-DAY DS MAINT ALW 1-20	21-50	51-100	1-YR ALW PER 100 EQP CNTY	ILLUSTRATION Fig. No.
			GROUP 12 (CONTINUED)											
PAOZZ	8305-264-6151		WEBBING,TEXTILE-NYLON,TYPE XVIII,1 IN.W,OLIVE...... DRAB,6,000 LB BREAKING STRENGTH,MIL-W-4088	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-082-5752		WEBBING,TEXTILE-NYLON,TUBULAR,1/2 IN.W,NATURAL..... COLOR,W/YELLOW IDENTIFICATION YARNS,1,000 LB BREAKING STRENGTH,MIL-W-5625	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-268-2453		WEBBING,TEXTILE-NYLON,TUBULAR,1/2 IN.W,OLIVE DRAB,. W/BLACK IDENTIFICATION YARNS,1,000 LB BREAKING STRENGTH,MIL-W-5625	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-082-5751		WEBBING,TEXTILE-NYLON,TUBULAR,3/4 IN.W,NATURAL..... COLOR,W/YELLOW IDENTIFICATION YARNS,2,300 LB BREAKING STRENGTH,MIL-W-5625	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-082-5753		WEBBING,TEXTILE-NYLON,TUBULAR,1 IN.W,NATURAL....... COLOR,W/YELLOW IDENTIFICATION YARNS,4,000 LB BREAKING STRENGTH,MIL-W-5625	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	8305-268-2455		WEBBING,TEXTILE-NYLON,TUBULAR,1 IN.W,OLIVE DRAB,... W/BLACK IDENTIFICATION YARNS,4,000 LB BREAKING STRENGTH,MIL-W-5625	FT	V	*	*	*	*	*	*	*		BULK
PAOZZ	9505-892-4616		WIRE,STEEL,CORROSION RESISTING-0.080 IN.DIA....... 10 LB COIL,FED QQ-W-423	LB	V	*	*	*	*	*	*	*		BULK
			SECTION III SPECIAL TOOLS LIST											
MOOZZ			BOX,PARACHUTE PACKING............................		1									3-58

SECTION IV
FEDERAL STOCK NUMBER AND REFERENCE NUMBER INDEX

STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER	STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
1377-060-0885	2-143		4020-246-0688	BULK	
1670-039-5073	1-14		4020-252-2941	BULK	
1670-045-9972	1-28		4020-252-2942	BULK	
1670-045-9973	1-29		4020-262-2019	BULK	
1670-045-9974	1-27		4020-262-2020	BULK	
1670-052-1548	1-19		4020-782-5415	BULK	
1670-086-7781	3-91		4020-926-1368	BULK	
1670-090-5354	2-166		4020-965-0435	BULK	
1670-176-1802	BULK		4020-965-0473	BULK	
1670-216-7297	1-11		5305-177-5617	2-166	
1670-217-2421	1-10		5305-269-6657	1-10	
1670-217-2421	1-11		5305-269-6657	1-11	
1670-217-2421	2-109		5305-269-6657	1-18	
1670-217-2421	2-128		5305-269-6657	2-109	
1670-217-2421	1-16		5305-269-6657	2-128	
1670-217-2421	1-18		5305-269-6657	2-154	
1670-217-2421	2-175		5305-269-6657	2-175	
1670-218-1185	1-10		5305-940-8069	1-2	
1670-251-6601	1-4		5305-940-8069	2-125	
1670-251-6601	1-6		5310-842-1190	1-2	
1670-269-1107	1-15		5310-842-1190	2-125	
1670-272-8955	1-9		5310-891-3428	2-166	
1670-293-9330	1-7		5315-664-1460	BULK	
1670-293-9331	1-7		5325-231-6589	2-177	
1670-294-0288	2-187		5325-231-6589	3-124	
1670-308-4221	2-98		5325-231-6590	2-167	
1670-308-4221	3-11		5325-231-6590	2-177	
1670-308-4221	3-30		5325-247-0217	2-188	
1670-308-4221	3-55		5325-291-0293	2-167	
1670-308-4221	3-66		5350-221-0872	BULK	
1670-308-4221	3-135		5530-234-4812	BULK	
1670-360-0466	2-97		6810-270-9982	BULK	
1670-360-0466	3-111		6850-264-9038	BULK	
1670-360-0469	3-95		7510-286-5362	BULK	
1670-360-0471	3-109		7510-634-6583	BULK	
1670-360-0475	2-121		7510-663-0199	BULK	
1670-368-4219	1-17		7930-281-4731	BULK	
1670-377-6638	2-109		8010-297-2124	BULK	
1670-377-9388	1-18		8135-160-7759	BULK	
1670-491-0948	2-187		8135-171-0981	BULK	
1670-568-0323	BULK		8135-266-5006	BULK	
1670-611-4347	1-4		8135-802-8311	BULK	
1670-611-4347	1-6		8305-082-5751	BULK	
1670-611-5507	1-4		8305-082-5752	BULK	
1670-611-5507	1-6		8305-082-5753	BULK	
1670-678-8560	3-1		8305-170-5871	BULK	
1670-678-8562	1-2		8305-170-9268	BULK	
1670-678-8562	2-125		8305-171-1203	BULK	
1670-687-5458	1-22		8305-185-9731	BULK	
1670-687-5459	1-26		8305-205-1478	BULK	
1670-733-4883	1-25		8305-244-0214	BULK	
1670-778-9808	1-23		8305-254-4842	BULK	
1670-783-5988	1-23		8305-260-2561	BULK	
1670-783-5988	1-27		8305-260-2564	BULK	
1670-788-8666	1-1		8305-260-2565	BULK	
1670-815-2727	1-21		8305-260-2573	BULK	
1670-841-0020	1-12		8305-260-6909	BULK	
1670-856-0265	1-20		8305-260-6910	BULK	
1670-856-0266	1-24		8305-261-8579	BULK	
1670-856-6847	3-109		8305-261-8584	BULK	
1670-856-6847	3-133		8305-261-8585	BULK	
1670-872-6109	1-2		8305-263-2472	BULK	
1670-893-2371	1-9		8305-263-3616	BULK	
1670-984-3535	1-3		8305-263-3639	BULK	
1670-999-2658	1-5		8305-264-6151	BULK	
4020-113-3896	BULK		8305-267-3009	BULK	
4020-240-2141	BULK		8305-268-2411	BULK	
4020-240-2146	BULK		8305-268-2453	BULK	
4020-240-2154	BULK				

SECTION IV

STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER	STOCK NUMBER	FIGURE NUMBER	ITEM NUMBER
8305-268-2455	BULK		8310-248-9716	BULK	
8305-270-1291	BULK		8310-248-9732	BULK	
8305-281-3012	BULK		8310-261-8690	BULK	
8305-281-3013	BULK		8310-261-9741	BULK	
8305-281-3315	BULK		8310-262-2551	BULK	
8305-433-5986	BULK		8310-262-2770	BULK	
8305-460-4200	BULK		8310-262-2772	BULK	
8305-479-1796	BULK		8310-262-2777	BULK	
8305-577-4599	BULK		8310-252-2780	BULK	
8305-641-4380	BULK		8310-262-3324	BULK	
8305-753-6086	BULK		8310-267-3024	BULK	
8305-765-2863	BULK		8310-267-3027	BULK	
8305-782-2938	BULK		8315-176-8083	BULK	
8305-926-1559	BULK		8315-253-6271	BULK	
8305-940-8326	BULK		8315-253-6292	BULK	
8310-194-4055	BULK		8315-255-7673	BULK	
8310-194-4065	BULK		8315-255-7675	BULK	
8310-194-4156	BULK		8315-281-3221	BULK	
8310-227-1244	BULK		9160-253-1171	BULK	
8310-244-0603	BULK		9160-285-2044	BULK	
8310-248-9714	BULK		9310-160-7858	BULK	
8310-248-9715	BULK		9505-892-4616	BULK	

SECTION IV

REFERENCE NUMBER	MFG CODE	FIG NUMBER	ITEM NUMBER	REFERENCE NUMBER	MFG CODE	FIG NUMBER	ITEM NUMBER
MS20230BS3	96906	2-167		51B7280-5	98750	1-3	
MS20230B10	96906	2-177		51C6055	98750	1-32	
MS20230B10	96906	3-124		51C6166	98750	1-4	
MS20230B2	96906	2-167		51C6166	98750	1-6	
MS20230B2	96906	2-177		51C6257	98750	1-31	
MS22002-1	96906	1-10		51C6718	98750	1-15	
MS22002-1	96906	1-11		51C7071	98750	3-30	
MS22002-1	96906	1-16		51D6045	98750	1-34	
MS22002-1	96906	1-18		51D6183	98750	2-121	
MS22002-1	96906	2-109		51D6252	98750	1-30	
MS22002-1	96906	2-128		51D6553	98750	1-4	
MS22002-1	96906	2-175		51D6553	98750	1-6	
MS22002-3	96906	1-10		51J7069	98750	1-3	
MS22002-3	96906	1-11		52D6354	98750	1-18	
MS22002-3	96906	1-16		52K6329	98750	1-22	
MS22002-3	96906	1-18		53D6795	98750	1-33	
MS22002-3	96906	2-109		53D6805	98750	1-10	
MS22002-3	96906	2-128		53E6803-1	98750	1-11	
MS22002-3	96906	2-175		53J6413	98750	2-109	
MS22045-1	96906	3-109		54C6335	98750	2-98	
MS22046-3	96906	2-97		54C6335	98750	3-11	
MS22048B1	96906	2-188		54C6335	98750	3-30	
MS27762-1	96906	3-95		54C6335	98750	3-55	
MS27763-1	96906	2-187		54C6335	98750	3-66	
MS35691-61	96906	1-2		54C6335	98750	3-111	
MS35691-61	96906	2-125		54C6335	98750	3-135	
MS35691-77	96906	2-166		54K6299	98750	1-14	
MS70086-1	96906	3-1		55A6045	98750	1-9	
MS70087-2	96906	1-2		57C6359	98750	1-20	
MS70087-2	96906	2-125		57D6299	98750	1-23	
MS70087-3	96906	2-166		57D6300	98750	1-27	
MS90727-197	96906	1-2		57J6032	98750	1-19	
MS90727-197	96906	2-125		58J6098	07878	1-29	
MS90727-241	96906	2-166		58J6099	98750	1-25	
11-1-2069	81337	3-122		58J6100	98750	1-21	
11-1-216	81337	1-1		58K6326	98750	1-26	
11-1-217	81337	1-1		59B6209	98750	1-22	
11-1-218	81337	1-1		59B6218	98750	1-26	
11-1-219	81337	3-15		59J6171	98750	1-12	
11-1-219	81337	3-44		60B6039	98750	3-109	
11-1-508	81337	3-11		60B6039	98750	3-133	
11-1-555	81337	1-2		61A4312	98750	1-19	
11-1-556	81337	1-2		61B2273	98750	1-8	
11-1-559	81337	3-40		61D2459	98750	1-4	
11-1-561	81337	2-35		61D2459	98750	1-6	
11-1-578	81337	1-5		61K2266	98750	1-7	
11-1-579	81337	1-5		61K2266-1	98750	1-7	
11-1-58	81337	1-23		61K2266-2	98750	2-85	
11-1-58	81337	1-27		61K2266-6	98750	3-65	
11-1-581	81337	3-55		61K2266-7	98750	3-63	
400715	07278	2-143		61K2266-8	98750	3-61	
48J7841	81337	3-95		61K2266-9	98750	3-60	
48J7841-3	98750	1-15		61K2267	98750	1-7	
48K6076	98750	1-9		62D4369	98750	3-124	
50C7415-34	98750	3-101		63J4260-1	98750	1-24	
50K7415	98750	1-17		63J4260-2	98750	1-28	
50K7415-14	98750	3-99		64B22172	98750	2-187	
51A6268	98750	1-9		64D22262	98750	3-91	

APPENDIX D

Packing Assist for G-11A Cargo Parachute

D-1. General.

The packing assist is a plywood container on casters which aids in the stowing of the canopy.

2. Materials Required.

4 each	4 in. caster wheels	5340-00-985-6736
65 each	1-1/2 in. wood screws	5305-00-010-2110
45 each	2-1/2 in. wood screws	5305-00-010-2135
16 each	1-1/2 in., 1/4 in. dia lag screws	5305-00-402-5747
2 each	3/4 in. plywood 4 ft × 8 ft	5530-00-128-4981
1 each	2 in. × 6 in. × 10 ft lumber	
1 each	2 in. × 4 in. × 8 ft lumber	

D-3. Fabrication.

A packing assist may be initially obtained or replaced by local fabrication as follows:

a. Using the details in figure D-1, cut the plywood and the lumber to the lengths required.

b. Assemble the packing assist according to details outlined in figure D-1.

D-4. Optional Method of Stowing the Canopy.

a. Suspend the deployment bag inside the packing assist, using the two top carrying handles. Plac the handles over the 2 × 6 boards on each side of the packing assist.

b. Stow the canopy, while the packing assist is being pushed toward you.

c. After stowing the canopy, remove the deployment bag from the packing assist and continue packing the assembly in the conventional manner.

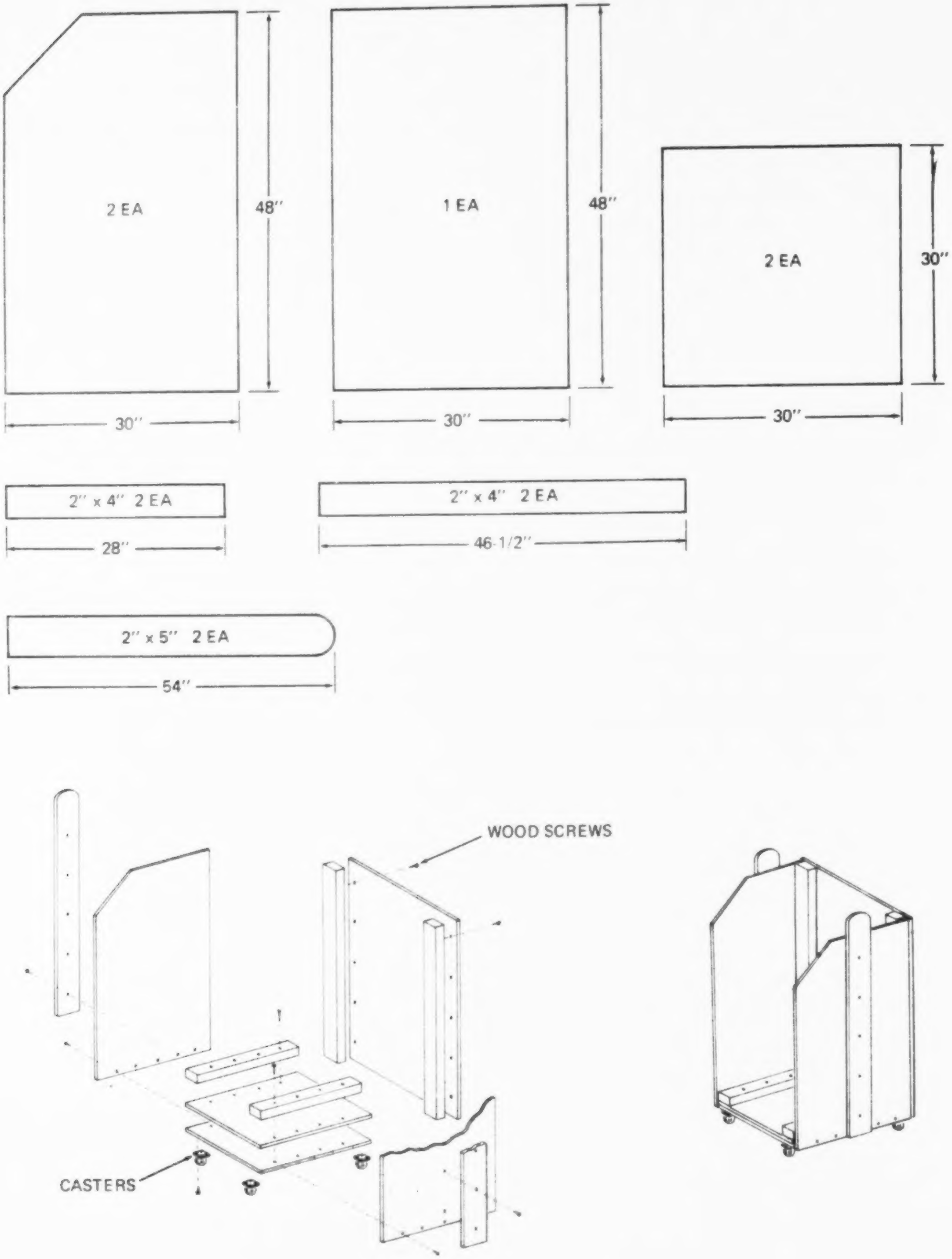
2 EA
48"
30"
1 EA
48"
30"
2 EA
30"
30"
2" x 4" 2 EA
28"
2" x 4" 2 EA
46-1/2"
2" x 5" 2 EA
54"
WOOD SCREWS
CASTERS

Figure D-1. Fabrication of packing assist for G-11A Cargo Parachute.

Quantity for one parachute (1) / Quantity for 100 Parachutes (1)	12-Ft-Dia. High-Velocity Cargo Parachute	G-13 24-Ft-Dia. Cargo Parachute	26-Ft-Dia. High-Velocity Cargo Parachute	G-14 34-Ft-Dia. Cargo Parachute	38-Ft-Dia. RCAT Cargo Parachute	G-12C 64-Ft-Dia. Cargo Parachute	G-12D 64-Ft-Dia. Cargo Parachute	68-Inch-Dia Pilot Parachute	G-11A 100-Ft-Dia. Cargo Parachute	15-Ft-Dia. Cargo Extraction Parachute	22-Ft-Dia. Cargo Extraction Parachute	28-Ft-Dia. Cargo Extraction Parachute	3-Ft-Square Pilot Parachute
Thread, Cotton-Ticket No. 24, Type 1B2	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	8 in. 23 yds.
Thread, Cotton-Ticket No. 3, Type II	N/A	N/A	N/A	N/A	N/A	264 in. 734 yds.	264 in. 734 yds.	N/A	492 in. 1364 yds.	N/A	N/A	N/A	N/A
Thread, Cotton-Ticket No. 5, Type TI	N/A	N/A	N/A	N/A	N/A	144 in. 400 yds.	N/A	24 in. 67 yds.	18 in. 50 yds.	48 in. 134 yds.	48 in. 134 yds.	48 in. 134 yds.	N/A
Webbing, Textile-Cotton, Type I, 1/4-inch-wide	132 in. 367 yds.	60 in. 167 yds.	132 in. 367 yds.	60 in. 167 yds.	96 in. 267 yds.	562 in. 1562 yds.	600 in. 1667 yds.	N/A	858 in. 2384 yds.	60 in. (2) 167 yds.	60 in. (2) 167 yds.	60 in. (2) 167 yds.	N/A
Webbing, Textile-Nylon, Tubular, 1/2-inch-wide	30 in. (3) 84 yds.	30 in. (3) 84 yds.	30 in. (3) 84 yds.	30 in. (3) 84 yds.	N/A	N/A	36 in. (4) 100 yds.	N/A	300 in. (5) 833 yds.	N/A	N/A	N/A	N/A
Cord, Fibrous-Nylon, Type III	N/A	12 in. (6) 34 yds.	N/A	12 in. (6) 34 yds.	N/A	N/A	18 in. 50 yds.	12 in. (7) 34 yds.	24 in. 68 yds.	24 in. 68 yds.	N/A	N/A	N/A
Tape, Pressure-Sensitive Adhesive, 2-inch-wide, Type III	N/A	N/A	N/A	N/A	72 in. (8) 200 yds.	N/A	N/A	N/A	22 in. 62 yds.	N/A	N/A	N/A	N/A
Band, Rubber, Parachute Suspension Line Retainer	11 1100	26 2600	26 2600	26 2600	16 1600	4 400	N/A	3 300	N/A	18 1800	18 1800	18 1800	N/A
Paper, Kraft, Untreated	N/A	N/A	N/A	N/A	N/A	20 in. square 2000- x 20-in.	N/A	N/A	8½-x 24-in. 850- x 24-in.	N/A	N/A	N/A	N/A
Cloth, Muslin-Cotton, Type II, 3.7-ounce	N/A	N/A	N/A	N/A	N/A	10-x10-in. 10 yds.	10-x10-in. 10 yds.	N/A	10-x10-in. 10 yds.	N/A	N/A	N/A	N/A
Strap, Webbing-Nylon, Yellow, Type VIII, 60-Inch-long, w/Strap Fastener	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	1 (9)	N/A	N/A	N/A	N/A
Barrier Material	N/A	N/A	N/A	N/A	59-in. x 20-in. (8)	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

PENDIX D
CARGO PARACHUTE KING EQUIPMENT REQUIRMENTS

Cutter, Type M-21, 2 Second, Delay	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	2	N/A	N/A	N/A	N/A
Packing Box	N/A	N/A	N/A	N/A	1	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
Work Area	3-ft.-wide x 50-ft.-long	3-ft.-wide x 50-ft.-long	3-ft.-wide x 50-ft.-long	3-ft.-wide x 50-ft.-long	3-ft.-wide x 50-ft.-long	8-ft.-wide x 100-ft.-long	8-ft.-wide x 100-ft.-long	3-ft.-wide x 10-ft.-long	8-ft.-wide x 155-ft.-long	3-ft.-wide x 40-ft.-long	3-ft.-wide x 50-ft.-long	3-ft.-wide x 50-ft.-long	3-ft.-wide x 10-ft.-long
Packing Tables (10-Foot-Lengths)	5	5	5	5	5	N/A	N/A	1	N/A	4	5	5	1
Lighting (10)													
Fan, Floor, 30-inch Pedestal	N/A	N/A	N/A	N/A	N/A	1	1	N/A	1	N/A	N/A	N/A	N/A
Line Separators	1	1	1	1	1	1 (large)	1 (large)	N/A	1 (large)	1	1	1	N/A
Packing Weights	4	1	4	3	3	N/A	N/A	N/A	N/A	3	6	6	N/A
Tension Boards	1	1	1	1	1	(11)	(11)	N/A	(11)	1	1	1	N/A

(1) When using the production pack method, the quantities listed above should be increased by 50%.
(2) Includes auxiliary tie material for securing extraction line to deployment bag.
(3) Bag retaining tie per breakaway static line.
(4) Packing aid material.
(5) Includes 36 inches for packing aid material.
(6) Core threads removed for use on either breakaway or nonbreakaway static line.
(7) Core threads removed for use on breakaway static line.
(8) Required for construction of a pack bag.
(9) Packing aid. Requires one per packing lane.
(10) A 30 foot-candle of direct fluorescent lighting with total foot-candle requirements determined by the Corps of Engineers in accordance with TM 5-680B.
(11) A vehicle or tension jack may be used to apply tension.

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